DOCUMENT RESUME

ED 044 483 VT 007 595

AUTHOR	Campbell, Robert A.
TITLE	An Experimental Program to Prepare Vocational-Technical Teachers for Laboratory Classes Designed for Dropout-Prone Youth. Final Report.
INSTITUTION	Illinois Univ., Urbana.
SPONS AGENCY	Bell and Howell Co., Lincolnwood, Ill.; Illinois Research and Development Coordinating Unit, Springfield.
PUB DATE	68
NOTE	161p.
AVAILABLE FROM	Research and Development Unit, Illinois Board of Vocational Education and Rehabilitation, 405 Centennial Building, Springfield, Illinois 62706
EDRS PRICE	EDRS Price MF-$0.75 HC-$8.15
DESCRIPTORS	Caucasians, Dropout Prevention, *Experimental Curriculum, Experimental Programs, *Industrial Education, Kinescope Recordings, Negroes, *Potential Dropouts, Program Descriptions, School Shops, Summer Programs, *Teacher Aides, *Teacher Education
IDENTIFIERS	Illinois, Urbana

ABSTRACT

To prepare vocational-technical teachers to work with dropout-prone youths in laboratories within the school and to discover how successful a special vocational-technical program would be in assisting those students with special needs, 24 dropout-prone occupational exploration students were chosen to participate in a 6-week summer experimental program. The 24 experimental students and 10 students in a control group were chosen by random sample stratified by race--half Negro, half Caucasian. Findings included: (1) Race was not a significant variable, (2) Pretests and posttests of attitudes toward school shops were not significantly different at the .05 level, (3) Dropout-prone students will attend summer school if paid and enrolled in a special program, (4) Teaching methods should actively involve such students, and (5) Negative teacher responses cause decrements in desirable student behavior. Instructional units developed for use with these students and diaries made by graduate students and instructors are included. For information concerning a set of three 16 mm kinescopes, contact the author at Department of Vocational and Technical Education, College of Education, University of Illinois, Urbana, Illinois 61801. (CD)

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An Experimental Program to Prepare Vocational-Technical Teachers for Laboratory Classes Designed for Dropout-Prone Youth

ROBERT A. CAMPBELL

VT007596

This investigation was jointly supported by the Research Coordinating Unit of the Illinois State Board of Vocational Education and Rehabilitation, the University of Illinois, and the Bell & Howell Company.

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An Experimental Program to Prepare Vocational-Technical Teachers for Laboratory Classes Designed for Dropout-Prone Youth

Final Report

VT007595

ROBERT A. CAMPBELL
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of Vocational and Technical Education

UNIVERSITY OF ILLINOIS, URBANA

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Acknowledgments

A project as large as this one, involving people with widely different backgrounds and points of view, would be impossible to conduct successfully if it were not for the helpfulness of countless individuals.

Realizing that one is unable to recognize by name everyone who helped this project achieve its goals, the director desires to identify a few of this legion.

The two teachers who brilliantly led the college classes, Neil E. MacGregor and Dr. Robert A. Tinkham, both gave willingly and unstintingly of their time and energies.

In the theoretical phases of the project, Guy R. Jones, Prevocational Counselor, Champaign Public Schools, and two members of the funding agency, Philip G. Baird, formerly Consultant, Research Coordinating Unit (RCU), and Vernon E. Burgener, Coordinator, RCU, Illinois State Board of Vocational Education & Rehabilitation, were most helpful and insightful. Colleagues in the Division of Industrial Education deserve a special acknowledgement for acting as a sounding board during the development of the project proposal. Dr. Jacob Stern, a former member of the division, was most encouraging. The division allotted their total air-conditioned laboratories exclusively to the summer project.

The cost of producing the large number of video tapes was borne mainly by the College of Education and the Office of Instructional Resources. Daryl Fairchild, Television Producer-Director, and Michael H. Alig, Video Engineer, gave skillful help.

The project advisory committee gave several excellent pieces of advice which were utilized successfully.

College students who participated in the summer experimental classes worked long and hard at the task of teaching our dropout-prone students, either by developing curriculum materials or by providing face-to-face contact with these socially maladjusted pupils.

The research assistants varied in their skills and abilities, but each contributed what he could, and all were exposed to a project with many exciting variables waiting to be explored. Lewis Holloway and Mark Miller did outstanding work in this capacity. Other helpful research assistants were Richard Henak, Ronald Blackford, Thomas Jensen, William Coffey, and Al Huth. Many of these men were on the project for only one-quarter time during the eight-week summer session.

The donation of two Language Master Teaching Machines by the Photo Products Group of the Bell & Howell Company is gratefully acknowledged. Special recognition is due George Tucker and Robert Hoff.

Appreciation must be expressed to the art and editorial divisions of the University of Illinois Press for their fine professional assistance.

George Jefferson, Consultant for Persons with Special Needs, State Department of Education, has been most encouraging and stimulating to the project director.

The members of the summer session class of 1967 which dealt with dropout-prone students were extremely capable and creative in helping develop the additional two kinescopes which were beyond the original proposal.

Paula Brighton, the project secretary who served throughout the duration of the research study, was truly indispensable.

Very special recognition is reserved for the six people who have sacrificed the most during the execution of this study—little Kim, Kathy, Scott, Krista, and Robbie Campbell, and my darling wife, Joyce.

Urbana, Illinois
July, 1967

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Introduction

THE PROBLEM AND NEED FOR THE STUDY

The problem, in its broadest sense, is concerned with helping each child develop to his highest potential through education. The national, economic, and personal benefits gained by attempting to achieve this goal are so prominent in our current literature and recent federal legislation that they will not be reiterated here.

Nationally, there seems to be a void in present activities dealing with dropout-prone youth. Some school systems have excellent programs during the school year allowing students to work part time in the community during some school hours. Programs in vocational education such as Distributive Education, Diversified Occupations, and Supervised Job Training fall into this general category. For youths who have actually dropped out of school, the Job Corps and Neighborhood Youth Corps are available. There do not seem to be, however, many laboratory programs completely *within* the school that specifically attack the problem. This experimental program is aimed at investigating the feasibility of preparing teachers for this void.

The state research staff of the Illinois Research Coordinating Unit for Vocational Education, in discussing this research project, emphasized the dire need for programs of this kind. Not one summer program was available in 1965 in this state for vocational technical teachers interested in learning how to work with the disadvantaged. Meanwhile, Urbana, the home of the University of Illinois, had to cancel an experimental program in the public schools, approved by the State Board of Vocational Education and Rehabilitation, mainly because of the difficulty in obtaining teachers.

During the same period that this research project was in operation, one of the tasks of the project director happened to be an evaluation of a two-day conference conducted by the Illinois Research Coordinating Unit. Ray Page, State Superintendent of Public Instruction, wrote in the preface of the final report for this conference, "Perhaps there has never before been assembled such a distinguished, sophisticated, knowledgeable, and comprehensive group to consider the critical issues and challenges facing vocational and technical education in Illinois." This quote was taken from *Vocational Education in Illinois - Planning for Measured Change*, coedited by Robert A. Campbell and Philip G. Baird.

One hundred and sixty persons attended the conference, representing such diverse fields as university teacher training and other university disciplines, the State Department of Public Instruction staff, public school personnel, organized labor, private schools, and publishing. After completion of the conference, a letter requesting at least one suggestion of a critical need or issue facing vocational education elicited from the participants their opinion that the *need to work with disadvantaged and less-than-normal students* far outweighed any other need.

To our knowledge, this was the first program in the nation to prepare industrial education teachers to work specifically with dropout-prone students.

OBJECTIVES

The experimental program originally had and basically kept the following purposes:

1. To explore the dimensions of the dropout-prone youth problem in relation to occupational development leading toward gainful employment.

2. To discover how the unique laboratory experiences of votec meet or fail to meet the needs of these youths in relation to occupational development or preparation for occupational programs.

3. To prepare accredited teachers and teaching aides
   a. by identifying needed competencies and the operative selection factors;
   b. by providing research and curriculum development experiences for graduate students interested in dropout-prone youth through a search for answers to the following questions:
      i. What is the personal reaction of graduate students toward the dropout problem after they have studied the problem?
      ii. What research and curriculum materials are available from outside the project?
      iii. What research and curriculum materials can be developed which are custom tailored for the summer experimental program?

4. To disseminate the findings.
    a. Prepare a thirty- to forty-five-minute kinescope of the summer experimental program.
    b. Conduct a one-day evaluation and dissemination conference.
    c. Publish the final report.
    d. Write an article for professional publication.
    e. Deliver a speech for a national convention.

It is recognized that dissemination of research findings is usually not regarded as a major project objective. However, the project director felt so strongly about the usual weaknesses in effectively disseminating research findings in education that dissemination was specifically designed into this project as one of the four important goals.

DEFINITION OF TERMS

The following definitions are given to clarify the terms used in the study.

Experimental, as used in this particular project, is defined by the funding agency, the Illinois Researching Coordinating Unit of the State Board of Vocational Education and Rehabilitation, as those experimental projects which involve direct contact with learners and/or are basically a field trial of an innovative idea.

Industrial education is the generic term which includes both trade and industrial vocational education and industrial arts education.

Dropout-prone youth is delimited, for purposes of this study, to fifteen- and sixteen-year-old boys in the Occupational Exploration Program within the Champaign Public Schools.

RELATED STUDIES

The original manuscript for this report was so lengthy that it had to be shortened to meet contract publishing costs. Therefore, only two key sources for pertinent research studies are listed, along with the listing of one specific study.

The Information Retrieval Center on the Disadvantaged (IRCD), located at Yeshiva University in New York City, maintains a classified card file of more than 2,000 available bibliographical references. Special bibliographies on specific topics are compiled and provided upon request, and Xeroxed copies of abstracts are also available. The Center's services are available on a nonprofit basis.

Microfiche cards summarizing research studies and bound indexes dealing with the disadvantaged are available for purchase from the Bell & Howell Company.

Only one specific research study has been retained from our original manuscript. Because of its close association with the students we selected for our experimental and control groups, this study is listed. This final report of a study funded by the Vocational Rehabilitation Administration, Washington, D. C., was prepared by the project director Dr. Merle B. Karnes, *et al.* Entitled *The Efficacy of a Prevocational Curriculum and Services Designed to Rehabilitate Slow Learners Who Are School Dropout, Delinquency, and Unemployment Prone*, it is printed by the Champaign Community Unit IV Schools, Champaign, Illinois.

Procedures

The twenty-five steps outlined in the original proposal will briefly be presented with limited comment where necessary. The procedures for developing the brochure, attitude scale, and kinescopes will be presented in more detail.

1. Set up advisory committee. This was done with the following members named: Mr. Phil Baird, Dr. Carl Bereiter, Mr. Vernon Burgener, Dr. Robert Cooley, Dean Rupert V. Evans, Mr. Guy Jones, Dr. Merle Karnes, Dr. Ray M. Karnes, Mr. Clint Kelly, Mr. Neil MacGregor,[1] Dr. William J. Schill,[1] Dr. Bernard Spodek, and Dr. Robert Tinkham.[1]

2. Develop publicity program to attract undergraduate students, teachers, and graduate students who would be interested in working with dropout-prone youth. This included the preparation and distribution of a brochure. Teachers currently involved in state supported programs were also invited to attend.

The brochure is shown in Exhibit A. Twelve hundred copies were printed. Over eight hundred were sent to the teachers listed in the state directory of industrial education personnel. The mail addressograph of the State Department was used. Because official approval of the project was not received until *early May*, the brochure was designed, printed, and mailed by *May 24, 1966*.

A follow-up study of the effect of the brochure was conducted. Twenty teachers were randomly selected from the directory listing industrial edu-

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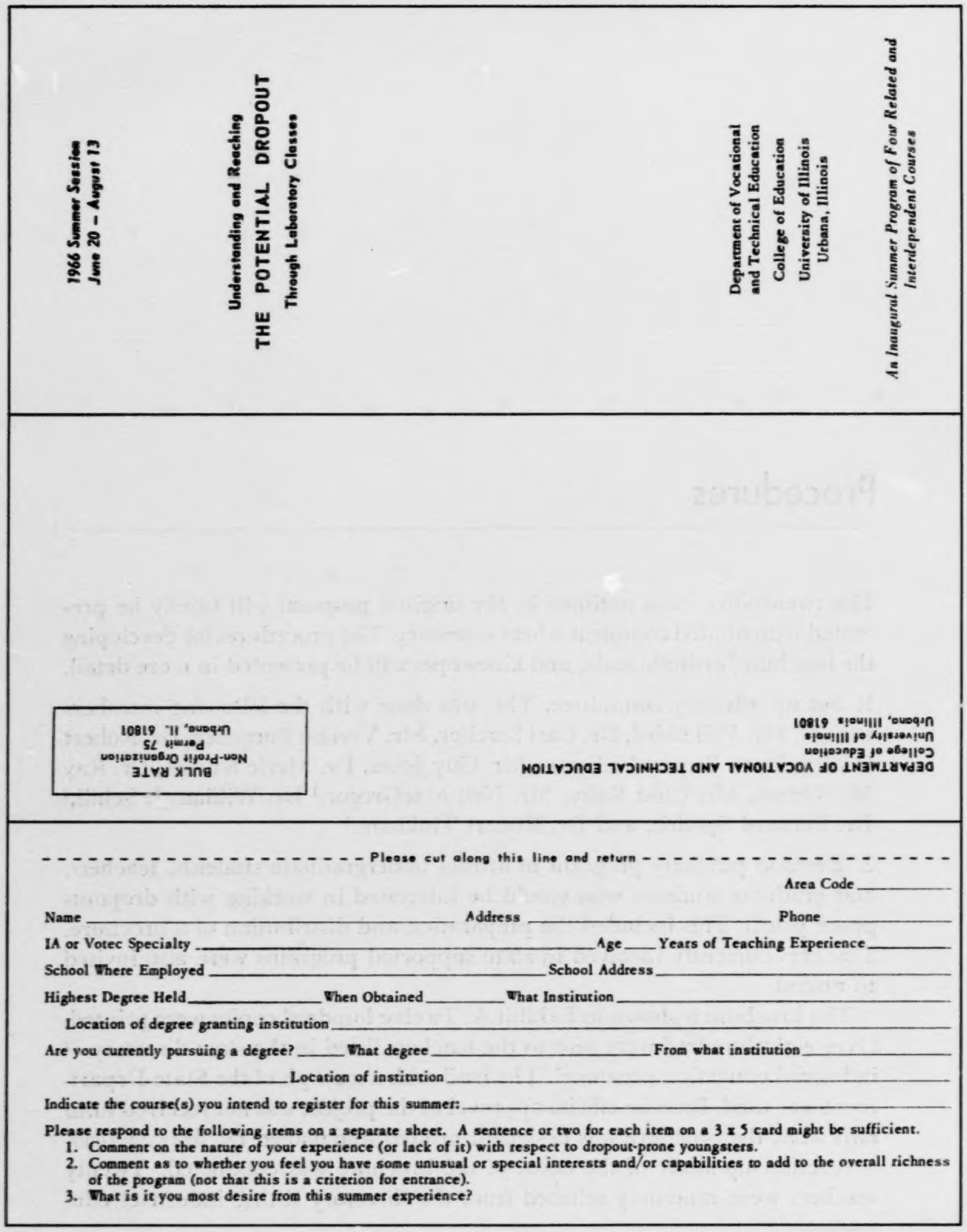
[1] Proposed teachers for summer experimental program.

Exhibit A



1966 Summer Session
June 20 – August 13

Understanding and Reaching
THE POTENTIAL DROPOUT
Through Laboratory Classes

Department of Vocational
and Technical Education
College of Education
University of Illinois
Urbana, Illinois

An Inaugural Summer Program of Four Related and Interdependent Courses

DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
College of Education
University of Illinois
Urbana, Illinois 61801

BULK RATE
Non-Profit Organization
Permit 75
Urbana, Il. 61801

- - - - - - - - - - - - - - - - - Please cut along this line and return - - - - - - - - - - - - - - - - -

Area Code ________

Name ____________ Address ____________ Phone ________

IA or Votec Specialty ____________ Age ____ Years of Teaching Experience ________

School Where Employed ____________ School Address ____________

Highest Degree Held ________ When Obtained ________ What Institution ____________

Location of degree granting institution ____________

Are you currently pursuing a degree? ____ What degree ________ From what institution ________

________ Location of institution ____________

Indicate the course(s) you intend to register for this summer: ____________

Please respond to the following items on a separate sheet. A sentence or two for each item on a 3 x 5 card might be sufficient.

1. **Comment on the nature of your experience (or lack of it) with respect to dropout-prone youngsters.**
2. **Comment as to whether you feel you have some unusual or special interests and/or capabilities to add to the overall richness of the program (not that this is a criterion for entrance).**
3. **What is it you most desire from this summer experience?**

A SENSE OF URGENCY

Youth who have actually dropped out of school might have recourse to programs such as the Job Corps or Neighborhood Youth Corps. However present in-school votec activity designed to benefit the dropout-prone youngster has been mainly limited to programs of the work-study variety. There does not seem to be many laboratory programs completely *within* the school that specifically attack the problem. This experimental summer program is aimed at investigating the feasibility of preparing teachers for this void. The effort is overdue. Not one summer program was available last year in this state for votec teachers interested in learning how to work with the disadvantaged.

REGISTRATION and RESPONSE INFORMATION

You are invited to register in any of the following courses providing you meet University of Illinois entrance requirements and do not exceed 8 semester hours or 2 units--a maximum summer session load. We expect people in attendance having special interests, backgrounds and competencies related to the problems of reaching and teaching dropout-prone individuals as well as teachers having little or no experience in this area. Accordingly we have requested some information from registrants in order to better plan our courses and draw upon the interests and capabilities of all for the benefit of all.

COMFORTABLE, UP-TO-DATE FACILITIES

We know that you will be pleased with the new, air conditioned Education Building with its modern, spacious votec laboratories and classrooms. All votec laboratories will be devoted exclusively to this summer research project. Continuous use of closed-circuit TV and video-tape will aid observation and recording of laboratory situations.

VOTEC 384

This course is part of a research project entitled: Experimental Program To Prepare VOTEC Teachers For Laboratory Classes Designed For Dropout-Prone Youth. It is funded by the State Board of Vocational Education and Rehabilitation.

A sample of 20–25 students from the Occupational Exploration Program of the Champaign school system will be drawn. All of these students have a pattern of failure (the causal factors varying). They will be induced to participate in summer afternoon instruction for pay. During the mornings they will be employed to maintain their school grounds under the supervision of their regular counselors who will work closely with the votec teachers and project staff.

A tutorial and/or team teaching relationship will be brought about between the votec teachers and the student subjects. A clinical-case study approach will be used for educational diagnosis, prognosis and treatment. Extensive personal data files, home visitation, sessions with counselors, seminars, and exchange of findings and ideas will all contribute to the theme of reaching and teaching this group. All content will have vocational implications and student progress will be carefully evaluated.

Apart from the immediate positive outcomes for the teachers and students, this exploratory research project hopes to develop many potentially fruitful hypotheses. These, in turn, will generate more specific research which is needed in order to combat the many variables implicit in dealing with the potential dropout through the vehicle of laboratory classes.

VOTEC 459D

The students in this course will work closely with Votec 384 by developing some of the instructional materials for it. General and specific problems related to the various characteristics and causal factors associated with dropout-prone students will be explored and new materials and motivational techniques will be examined, developed, tried out, and evaluated. Because of their complementary nature you may wish to take Votec 384 and Votec 459D together although it is not mandatory.

The course will also review the many and varied programs, curricula, and projects which have centered on aspects of the problem and discuss their merits and limitations.

VOTEC 459E and 482

These courses *must* be taken together because the content is continuous and meaningful only if so taken. Data Collection and Analysis (Votec 459E) and Research and Research Design in Votec Education (Votec 482) will be integrated via the problem or study selected for the practicum.

The objectives and emphases of these two courses are implied in their titles but special accommodation will be made in the interest of the experimental project (Votec 384) and any students desirous of working with data collection and analysis and research relevant to the drop-out problem, and particularly with respect to the summer experimental project, will be encouraged and helped along these lines.

A course in statistical inference would be a definite asset for these particular courses.

TIME SCHEDULE

Course	*Credit*	*Time*
Votec 384	4 credits or 1 unit	1–4 Tu-W-Th-F
Votec 459D	1 unit	8 Tu-W-Th-F
Votec 459E	1 unit	11 Tu-W-Th-F
Votec 482	1 unit	2 Tu-W-Th-F

(Votec 459E and 482 must be taken together.)

REGISTRATION PROCEDURE

Enrollment in these courses will be limited, particularly Votec 384. Interested persons may request *that a place be saved in any of these courses by sending this cut-off sheet with the pre-enrollment information appropriately filled out on the reverse side to:*

Dr. Robert A. Campbell
Department of Vocational and Technical Education
349 Education Building
University of Illinois
Urbana, Illinois 61801

When the pre-enrollment information is received we will take the initiative to have the Admissions Office send you additional information and appropriate forms. If you desire more information you may write or call (area code 217-333-2839) Dr. Campbell.

Formal registration is June 20th and the first day of instruction June 21st. Act now, the correspondence between you and the admissions office *after* you send in this return takes time.

cation teachers in Illinois. These men were contacted by phone. Most remembered receiving copies of the brochure. Three said they did not receive the brochure. This may be true because the state addressograph lists only one address for all industrial education teachers in a school, thus the brochures went out in packets to each school. They may or may not have been distributed within the school.

All who remembered receiving the brochure said they thought the program was a good idea. One even said he thought the program was long overdue.

The majority of teachers found it impossible to attend because of prior commitments, but several mentioned that they would be interested in taking part in a future summer. The common prior commitment was a degree program at summer school. Other commitments ranged from participation in an NDEA program to care of an ill wife. One man had since moved from the midwest and another had changed his field of instruction.

It was concluded that the brochure was adequately designed to catch the interest of these teachers but in future projects should be individually addressed and mailed earlier in the school year.

3. Identify experimental population.

a. Only students currently in the Occupational Exploration Program of the Champaign school system were eligible. The original criterion used to select these students was either environmental handicap or cultural deprivation, educational retardation, population mobility, low socio-economic level, inadequate school opportunity, undeveloped communication ability, or a combination of these.

b. Out of the 178 in the program ranging from the seventh to the twelfth grades and including both boys and girls, *only fifteen- and sixteen-year-old males who were willing to enter the summer experimental program were considered eligible. Of this number a stratified random sample was chosen.*

Thirty-four O. E. students met the requirements of the summer experimental program. By a stratified random sample, ten were placed in a control group. The remaining twenty-four O. E.'s were the students used in the main study. The stratification referred only to race. An attempt was made to obtain approximately half Caucasian and half Negro in each group.

The two main purposes of the control group were to provide a historical perspective and a basis for comparison of dropout rates during the following regular school year. It was felt the historical control was necessary in the event that during the summer in which the experimental program was in operation some event happened which radically changed the outlook of the dropout-prone students. A hypothetical example might be the dropout of a large number of our experimental students because of a great increase of low-level but high-paying jobs in the community. The control group would then also react to the same historical happening. The control group had the same Champaign O. E. counselors available to them throughout the summer as the students in the experimental program. The main difference was that the control group was provided employment at jobs *in* the community. This work was mainly unskilled labor and some of the places of employment were Chanute Air Force Base, Burnham City Hospital, Alexander Book Bindery, Champaign News Agency, Court Yard Cafeteria, Hunter Lumber Company, and Rick's IGA.

4. Develop a Likert-type attitude scale to measure dropout-prone students' attitude toward in-school industrial education.

Before the summer program began, the Student Attitude Toward School Shop (SASS) scale was developed by the project director. He spent two days interviewing O. E. students in their homes regarding their likes and dislikes toward school shop. These responses were to be used as a pool to prepare items for the scale. As the responses obtained were so similar to responses the investigator had obtained in an earlier research study in which he had developed a scale to measure junior high students' attitude toward industrial arts, it was decided to use this completed scale. Three main approaches had been used to measure the validity of this scale, including an outside criterion group. Statistically significant results were obtained from each of these three approaches. A reliability of .922 was found.

The main difference between these two scales was in their administration. The earlier scale was administered in a group setting after only the directions had been read aloud. Because the O. E. students were socially maladjusted the SASS scale was administered on an individual basis. Also because of the known low reading ability of many O. E. students, the SASS scale was read to the student as he looked on and then he indicated his response on a large card which had the five available choices.

The SASS scale is presented in Exhibit B. A reliability of .923 was obtained by using the split half method and the Spearman-Brown prophecy formula. This certainly seems to lend credence to the decision of utilizing the attitude scale developed earlier. It seems plausible that the scale *was* adequately measuring both groups since the reliability, when computed by the same method, yielded a difference of only .001 (.922 and .923).

5. Collect information about disadvantaged and dropout-prone youth. Among others, the services utilized were those offered by the Information Retrieval Center on the Disadvantaged, located at Yeshiva University in New York City, and the committee named by the Illinois State Superintendent of Public Instruction to explore the dropout problem in the state. Permission was granted by the Champaign Public Schools for the release of a complete copy of each O. E. student's file in our control and experimental groups.

Exhibit B

STUDENT ATTITUDE TOWARD SCHOOL SHOP (SASS)

©Robert A. Campbell, 1966
University of Illinois, Urbana, Illinois

Directions:

We would like to know how students feel about their experiences in school shop. We want you to answer each item as honestly as you can. We ask you not to write your name on these sheets for it is only your truthful answers that are important—it does not matter who gives the answer. Therefore, try to choose the response you believe to be most like yourself and do not try to flatter either the teachers or the programs.

Please circle the response which corresponds the closest to your feeling about each item.

SA = Strongly Agree
A = Agree
U = Uncertain
D = Disagree
SD = Strongly Disagree

Do not take too much time in thinking about any particular item. Please do not leave any item out—there is no right or wrong answer—it is just how you feel about things. Other people may have different opinions.

Here are a couple of examples for you to try.

SA A U D SD x. The game I like to watch best on TV is baseball.

If you like baseball the best of all games you watch on TV you would put a circle around SA for you strongly agree with the statement.

Now you try the next one.

SA A U D SD y. Strawberry ice cream is one of my favorite ice cream flavors.

Put a circle around the letter which comes the closest to representing your feelng. Even if your exact feeling is not found in one of the choices, pick the one which comes closest to your true feeling.

Now do the rest the same way. Sometimes it will be hard to make up your mind, but do the best you can and do not leave any out.

	F	U	Total
A			
B			
Total			

SA A U D SD 1. I like to learn how to use tools.
SA A U D SD 2. Compared with my other courses, I feel that school shop class is one of the poorer courses I am taking.
SA A U D SD 3. Most boys in my grade in school do not like school shop.
SA A U D SD 4. If I had a younger brother I would like to teach him how to use tools to make things.
SA A U D SD 5. School shop is my favorite subject.
SA A U D SD 6. In my opinion, a student cannot learn much in school shop.
SA A U D SD 7. I hate school shop.
SA A U D SD 8. If it were allowed, I would like to work in the school shop during my study periods.

SA A U D SD 9. I find that the subject matter of school shop has real interest for me.

SA A U D SD 10. I dread to come to my school shop class.

SA A U D SD 11. Personally, I dislike school shop.

SA A U D SD 12. I enjoy making things in the school shop.

SA A U D SD 13. I think school shop is fun.

SA A U D SD 14. About all that can be said for school shop is that it uses up part of the school day.

SA A U D SD 15. I like to tell other people about what I do in the school shop.

SA A U D SD 16. In school shop it seems as if the end of the period will never come.

SA A U D SD 17. Tools are my friends.

SA A U D SD 18. I like to show my finished project to my friends and parents.

SA A U D SD 19. I am dissatisfied with my progress in school shop.

SA A U D SD 20. If I become a teacher, I would like to teach school shop.

SA A U D SD 21. If I could skip one class it would be shop.

SA A U D SD 22. When I am supposed to be working in the school shop, I am usually thinking about other things.

SA A U D SD 23. In my opinion, school shop should not be required of all boys in the junior high school.

SA A U D SD 24. I feel good after I have made something in the school shop.

SA A U D SD 25. We have school shop too many times a week.

SA A U D SD 26. If I could do anything I wanted to do on Saturday mornings, I would come into the school shop and work.

SA A U D SD 27. While I am in school, I can't wait for my shop periods.

SA A U D SD 28. If the principal said there would be no more shops taught in this school I would be happy.

SA A U D SD 29. School shop gives me a chance to get something done that is worthwhile.

SA A U D SD 30. The projects we make in school shop are not useful to me and my family.

SA A U D SD 31. The main reason I make projects in school shop is because the teacher tells me to build something.

SA A U D SD 32. I would like to get tools for gifts rather than other things.

SA A U D SD 33. I feel that school shop is less respectable than most other subjects.

SA A U D SD 34. I would like to have a shop of my own someday.

SA A U D SD 35. In general, I think the school shop program is very worthwhile.

SA A U D SD 36. School shop work is dull.

SA A U D SD 37. I feel that I have very good teachers who help make school shop more interesting.

SA A U D SD 38. My school shop teachers are mean.

SA A U D SD 39. When I see an interesting project I want to find out how it was made.

SA A U D SD 40. In school shop class this year I have not tried at all.

SA A U D SD 41. If I were principal and able to change courses as I wished, I would make many changes in the school shop program.

SA A U D SD 42. I like my shop teachers because they try to help me with my projects.

SA A U D SD 43. I feel that there are "teacher's pets" or "favorites" in school shop class.

SA A U D SD 44. I learn different things in school shop which may help me in the future.

Please circle ONE of the following five choices:

In general, what is your attitude toward all the school shop classes you have had?

1. Like them very much.
2. Like them somewhat.
3. Undecided or don't know.
4. Dislike them somewhat.
5. Dislike them very much.

NOTE: Add up the total number of circles you have made on these two pages and place that number in this box. ☐

A microfiche machine was available exclusively for the project personnel. The complete set of microfiche cards and indexes dealing with disadvantaged students was purchased from the Bell & Howell Company.

6. Arrange transportation for experimental students. It was found that taxies between each of the schools (where the students spent their mornings as custodial helpers) and the University of Illinois were a great deal less expensive than bus transportation. An added advantage was that all the students left their morning work stations and arrived at the University within the same relatively short time period.

7. Arrange for student lunches to be delivered to the school laboratory each noontime. It was strongly felt that providing [illegible] the experimental students was important to the design of the [illegible]s had no facilities for refrigerating bag lunches during the [illegible]signments. Many parents would not or could not provide [illegible] meals. If the subjects left their morning work assignme[illegible] eat lunch on their own, there was a strong possibility the a[illegible] the summer laboratory program might be quite low.

A laboratory aide brought in the lunches from a local fifteen-cent hamburger establishment. The students had a meal selection slip, which they made out for the next day, with the only restriction a one dollar limit.

8. Make final arrangements for closed circuit TV of experimental lab classes and storage of all video tapes. The Office of Instructional Resources was extremely cooperative in this matter. Professional-type cameras were used instead of the typical closed circuit TV cameras. These cameras provided excellent quality video tapes from which to make composite kinescopes.

9. Select the personnel for laboratory aides. This is one of the few items which was changed from the original proposal. It had been proposed that young men who were school dropouts and who had been unemployed for two years were to be hired as laboratory aides. At the first advisory committee meeting, the consensus was that persons should be chosen who would set a positive example for the O. E. students. Five successful junior and

senior industrial education students from Champaign High School were chosen by their teachers for this job. The only restriction made on their choice was that a combination of white and Negro was desired. Three white and two colored students were selected. This proved to be an extremely valuable suggestion from the advisory committee.

10. Plan orientation programs for
    a. college teachers of the experimental program and related courses,
    b. teachers in training,
    c. graduate students in related classes,
    d. teaching aides,
    e. experimental students.

11. Schedule home visitations throughout the experimental program for (a), (b), and (c) above.

A parental interview form was developed by one of the research assistants and used in each of the home visitations. This record was then added to each O. E. student's cumulative file folder. A copy of the printed interview form appears in the Sample Cumulative File on page 116.

12. Arrange for Champaign counselors assigned to the experimental students to visit the experimental summer class and related classes.

The O. E. students were paid a dollar an hour for working in the Champaign Public Schools in the mornings and the same rate of pay for working at the University of Illinois in the afternoons.

An additional incentive is described in the following memo:

MEMO
TO: In-School Work Experience Employees
FROM: Guy R. Jones, Prevocational Coordinator

All in-school work experience employees are eligible for a $25.00 bonus upon completion of the summer program. This bonus is a reward for doing good work, for being regular and prompt in attendance, and for learning the material being taught on the job in the school, and at the University of Illinois.

Starting today (7-7-66) one dollar ($1.00) will be deducted from this bonus for each occurrence of the following:

1. Failure to report to this office (phone 358-1721) before you are absent or late for any reason.
2. Repeated absence or tardiness on the job.
3. A report from your school boss of poor work, laziness, or leaving your work station.
4. A report of poor performance from the University of Illinois.
5. A report of poor performance from the Prevocational Counselor.

In addition to the loss of part of your bonus, you will not be paid for any time not spent on the job because of absence, tardiness, and not working.

At the end of the summer, nine of the twenty-four O. E. students received the full $25.00. The majority earned $22 or $23. Three boys received no bonus money. Toward the end of the summer, all three had quit their morning jobs but still came to the University in the afternoon.

13. Conduct summer experimental program. The design for this is summarized in the following chart.

First week	
Orientation programs	
Middle six weeks	
8:00–11:55 a.m.	Students worked on building maintenance for the Champaign school system
12:00–12:15 p.m.	Transportation to University of Illinois College of Education by free taxi
12:15–1:00 p.m.	Group lunch period
1:00–4:00 p.m.	Votec 384, experimental summer laboratory program for dropout-prone youth
Eighth week	
Evaluation program	
Related graduate course	
Votec 459D, Practicum for developing instructional materials for dropout-prone youth	

This procedural step was accomplished with one major exception. Dr. Schill and his combined Votec 459E and 482 classes did not come to their scheduled orientation meeting. He chose, of his own volition, not to involve his classes directly with the project.

Exhibit C shows the arrangement of all the teams.

14. Collect samples of all data, instruments, curriculums, instructional materials, and research studies developed or used by the three related graduate courses.

15. Gather personal reactions of all persons associated with the experimental program:

a. dropout-prone students,
b. college teachers,
c. teachers in training,
d. graduate curriculum class,
e. teaching aides.

The daily diaries kept by those in (b), (c), (d), and (e) were turned in. A taped exit interview was conducted for those in (a), (c), (d), and (e). Students in the related graduate courses wrote their reactions to the experimental program and their part in it.

Illustrative samples of procedure steps 14 and 15 are presented in Section Three of this report, "Data Presentation and Analysis."

16. Review all video tapes of experimental summer program several times and edit into a thirty- to forty-five-minute kinescope.

A card was developed by the project director to assist in making the kinescopes. (*See* Exhibit D.) Over 2,000 of these cards were completed after many hours of reviewing all videotapes. The project director coincidentally viewed these tapes with Daryl Fairchild of the Office of Instructional Resources.

Exhibit C

VOTEC EXPERIMENTAL PROJECT TEAMS

Experimental Students (OE)	Teachers 384	Graduate Students 459D	Laboratory Aides
Team 1			
Adams, Charles Birt, John Bradley, Simely Cavanaugh, Bill Cole, Larry	Blackford, Ron 344-3359 Neumeister, John 352-71	Blackford, Ron 344-3359 Keele, Dwight 356-0103 Marks, Bill 944-345 Zahnle, James 344-1266	Comer, Steve 352-7378
Team 2			
Davidson, Charles Dorsey, Steve Drake, Bob Floyd, Sonny Gray, Eddie	Brewer, Lloyd 332-4844 Lynch, Edward 332-5442	Brewer, Lloyd 332-4844 Harrison, Gene (None) Swinford, Chuck 346-4409	Wood, Glen 356-9216
Team 3			
Grice, Mike Herron, Charles Laws, Joe Nunn, Scott Ohls, Tony	Claxon, William (None) Henak, Richard 332-2240	Beers, Robert 332-4890 Henak, Richard 332-2240 Zenor, Clifford 332-4129	Swain, Eric 1-863-5050
Team 4			
Phillips, Dennis Rauchman, Ken Roach, Fred Smith, Robert Tucker, Richard	Fuller, Foster 367-3063 Shutters, Donald 469-7171	Edwards, Robert 1-762-0663 Fuller, Foster 367-3063 Oettel, James 422-4960	Barcus, Dave 356-9841
Team 5			
Walker, Larry Whitton, Mike Williams, Tom Wood, James	Cordier,Gary 356-4983 Rebhorn, Eldon 352-6667	Eardley, Bill 352-9497 Rebhorn, Eldon 352-6667 Wisner, Bruce 352-3490	Cooper, Jesse 352-3825

The video tapes contained such excellent material that a major change in procedure was decided upon. Step 21 called for a one-day evaluation and dissemination conference of the summer research program. The director felt that producing additional kinescopes from the quality material available would probably actually disseminate the project more fully than the one-day conference. The funding agency agreed to this change and a set of three 16-millimeter films was produced from composites of the video tapes and was entitled **Experimental Program to Prepare Vocational-Technical Teachers for Laboratory Classes Designed for Dropout-Prone Youth, Part I—Project Summary, Part II—Preparing Teachers, Part III—Student Activities.**

These may be obtained by writing the project director:

Dr. Robert A. Campbell
Department of Vocational and Technical Education
College of Education
University of Illinois
Urbana, Illinois 61801

17. Follow up experimental and control students during the first part of regular school year.

This initial follow-up was completed. An additional follow-up was conducted to determine the dropout rate of the experimental and control groups at the *end* of the regular school year following the experimental summer program.

18. Analyze all data from the total project and arrive at conclusions. This data is the basis for the remainder of this final report.

19. Write final report.

20. Show kinescope to local educational groups. Step 20 will begin when the kinescopes are returned from the processor in the early fall of 1967.

Exhibit D

TAPE NO.:__________ Summary___ Teacher___ Student___ Page No.___

Beginning No.__________ CONTENT:____________________

Audio____________ ____________________

____________ ____________________

Video____________ ____________________

____________ ____________________

……

Ending No.__________ NOTE:____________________

Audio____________ ____________________

____________ ____________________

Video____________ ____________________

____________ ____________________

21. Conduct one-day evaluation and dissemination conference of summer experimental program.

This has been changed and was discussed previously in step 16. It is sincerely hoped that the reader will view the set of three kinescopes. This final report is considered as the other part, but only a part, of the final dissemination package.

22. Publish final report.

23. Write article describing summer experimental program for professional publication. This will be done after the final report is published.

24. Prepare speech describing summer experimental program for a national convention.

The project director was invited to Washington, D.C., in January 1967, to present a description of our project to vocational education state directors or their representatives. These people were attending the First National Conference in Vocational Education for Students with Special Needs. Unknown to us, our project along with thirty-three others had been suggested to the U.S. Office of Education Planning Committee, and it was chosen, along with two others, to be presented.

25. Consider feasibility of continuing summer experimental program during regular school year. This should be given careful consideration based on the reception of the final report and the three kinescopes.

Data Presentation and Analysis of the Researchers[1]

Permission had been granted by the Champaign school system for the release of a complete copy of the file for each O. E. student who was in the summer experimental project. This antecedent data was reproduced and made available to the project researchers, the graduate curriculum class, and the teachers in training. This information, together with additional data gathered by these three groups, proved extremely helpful in developing hypotheses to be tested, custom-tailoring curriculums which were developed, and determining the most advantageous teaching methods to use with the individual O. E. student.

The researchers felt that this collection of data and its subsequent analysis might provide a means of: (1) describing the population of the study, (2) determining what, if any, relationships exist between certain factors, and (3) providing information on all the subjects to be used in comparing particular individuals with the group.

It will be shown that analysis of the data proved to be quite helpful in describing the students and in providing a means for comparison. In trying to find relationships between the various factors there has been little success. Although we had anticipated statistically significant relationships, the lack thereof may be explained by the small number of subjects (23) and the homogeneity of the group.

---

[1] This major division of the report, Data Presentation and Analysis, has been subdivided into three parts: (1) Researchers, (2) Graduate Curriculum Class, and (3) Teachers in Training Class. Although there was a great deal of healthy overlap between these three groups, whenever possible the data will be presented and analyzed within only one of these group divisions.

The computer facilities of the University of Illinois were used for data analysis whenever possible.

AGE

Fifteen- and sixteen-year-old O. E. subjects were purposely chosen because fifteen-year-olds can *not* drop out of school no matter how dropout-prone they may be, whereas sixteen-year-olds can. No statistically significant results were found between age and any of the other variables.

BIRTHPLACE

As is shown below, the majority of the subjects were born in the Champaign-Urbana area, but no real relationship was found between their place of birth and other data. However, the data does give a good description of the group.

16 or 69.6 percent born in Champaign-Urbana
1 or 4.3 percent born in Midwest other than Champaign-Urbana
6 or 26.1 percent born in other than Midwest

FAMILY BACKGROUND

Data on socioeconomic class, father's and mother's occupation, family structure, sibling pattern, and race were gathered in order to provide a picture of the family background of the students. This information is not reported as new data as these factors probably contributed to the subjects' originally being identified as dropout-prone. The N of 24 which was used included the one dropout from the summer program. Although no relationships were found with other data, examination does provide a group picture of the subjects of this study. Socioeconomic level was taken from the school psychologist's report which was available on each subject. The 75 percent in the below-average category and lack of families in the above-average categories is certainly consistent with the predominance of fathers in low-level occupations, number of mothers working, and the number of large families.

Socioeconomic Level

6 or 25 percent, average
18 or 75 percent, below average

Father's Occupational Level
2 or 8.4 percent, father was technical or managerial
6 or 25.0 percent, father was skilled
11 or 45.8 percent, father was unskilled
5 or 20.8 percent, father was deceased or missing

Mother's Occupational Level
3 or 12.5 percent, mother was skilled
11 or 45.8 percent, mother was unskilled
9 or 37.5 percent, mother was housewife
1 or 4.2 percent, mother was deceased or missing

Family Structure
8 or 33.3 percent, father was working - mother at home
8 or 33.3 percent, father working - mother working
1 or 4.3 percent, father employed - mother missing
3 or 12.5 percent, father missing - mother unemployed
2 or 8.3 percent, father missing - mother employed
2 or 8.3 percent, foster home
Note: 8 or 33.3 percent were separated from at least one parent.

Sibling Pattern
6 or 25.0 percent were oldest boy - large family
10 or 41.7 percent were middle boy - large family
3 or 12.5 percent were youngest boy - large family
2 or 8.3 percent were youngest boy - middle family
2 or 8.3 percent were youngest boy - small family
1 or 4.2 percent were only boy - only child
Note: 19 or 79.2 percent were from large families

Race
N = 24 15 or 62.5 percent were white
9 or 37.5 percent were nonwhite
N = 23 14 or 60.9 percent were white
9 or 39.1 percent were nonwhite

In developing the sibling pattern, a large family was considered as over three, a middle family was three, and a small family was composed of one or two children. It will be noted that 19 or 79.2 percent of the subjects were from large families.

Although the nine Negro students represented only 37 percent of the group which began the study, it is important to note that this is believed to be a considerably higher percentage than the racial proportions in the community. Percentages for both the total group which began the summer program and the group which completed the program less the one dropout student are presented. Hereafter, unless otherwise noted, only an N of 23 will be used.

An attempt was made to ascertain whether there were relationships present in some of the above data which might be masked by the large number of categories for such a small group of student subjects. For this purpose the data was arranged in the following dichotomies: (1) father present—father not present, (2) mother not working—mother working, and (3) both parents present—one parent present. No significant relationships were found between these groupings and any of the other data.

18 or 78 percent, father present
5 or 22 percent, father not present

9 or 39 percent, mother not working
13 or 56 percent, mother working
1 or 5 percent, mother deceased

17 or 74 percent, both parents present
6 or 26 percent, one parent present

ABILITY LEVEL

To provide a picture of the ability level of the subjects, IQ scores and averages of grades at the junior high school level were obtained. Because of the nature of this study academic grade averages were reported separately from industrial arts grades.

The IQ scores ranged from 75 to 105 and were, with only one exception, below the normalitive mean of 100. This highly skewed distribution had a median of 85, mean of 87, and a standard deviation of 7.3. IQ was the first variable found to be statistically significant. IQ correlated with the following variables strongly enough to be statistically significant at the 1 percent level: *A correlation of .46* $p < .01$ *was found between IQ and industrial grades. A correlation of .61* $p < .01$ *was found between IQ and school behavior.*

A five point system was used in coding the subject's grades. As might be expected from this group, the grades fell almost exclusively below average.

Academic Grade Average - Junior High Grades

A	= 0	0.0 percent	
B	= 0	0.0 percent	*Code*
C	= 2	8.7 percent	A = 5
C−	= 6	26.1 percent	B = 4
D	= 7	30.4 percent	C = 3
D−	= 7	30.4 percent	D = 2
F	= 1	4.4 percent	F = 1

Range 1 to 3
Mean 2.02 (D)
Standard Deviation .53

Industrial Arts Grade Average - Junior High

A = 0 0.0 percent
B = 1 4.4 percent
C+ = 2 8.7 percent
C = 7 30.4 percent
C− = 4 17.4 percent
D = 5 21.7 percent
D− = 2 8.7 percent
F = 2 8.7 percent

Code
A = 5
B = 4
C = 3
D = 2
F = 1

Range 1 to 4
Mean 2.48 (C+)
Standard Deviation .79

A correlation of .46 $p < .01$ was found between IQ and industrial arts grades.

PHYSICAL CONDITION

Before and during the regular O. E. program, each student was required to have a physical examination. There was a copy of the initial examination in each subject's folder. From these reports the subjects were rated good, fair, or poor, and the results are reported below. There was no statistically significant relationship found to other data.

19 or 82.6 percent were in good physical condition
3 or 13.1 percent were in fair physical condition
1 or 4.3 percent was in poor physical condition

BEHAVIOR

The psychological reports for each student contained a statement regarding the individual's contact with the police. There was no average comparison group, but it is believed that the 29 percent of the initial group which had been in some sort of trouble with the police was more than would be expected of an average fifteen- or sixteen-year-old group in the Champaign-Urbana area. It is interesting to note that the dropout from the summer experimental program was one of the seven who was known to the police.

Police Contact

7 or 29.2 percent were known to police
17 or 70.8 percent were not known to police

From the psychological reports and other available cumulative folder information, the students' school behavior was ranked as good, fair, or poor. Of the seven students reported to have been in contact with the police, five were classified under the "poor" school behavior category.

School Behavior

7 or 29.2 percent rated good
7 or 29.2 percent rated fair
10 or 41.6 percent rated poor

As was mentioned earlier under the discussion of *Ability Level:* A correlation of .61 $p < .01$ was found between IQ and school behavior.

ATTENDANCE

The attendance office of each subject's school provided a record of his absences for the 1965-66 school year. The possible number of attendance days was 180.

School Attendance 1965-66 School Year

Range of absences 1-66 days
Mean 10.6
Standard Deviation 14.1
Median 6.3

Attendance was also kept for the summer project. There were 30 O. E. class meetings.

Summer Project Attendance

Range of absences 0-10 days
Mean 2.1
Standard Deviation 2.5
Median 1.1

It will be noted that although the range was from 0 to 10 the mean was 2.1. This difference is also reflected in the high standard deviation which was caused by the one subject with 10 absences.

A rank order correlation between absences during the 1965-66 school year and the absences during the summer program produced an $R = .25$ which was not statistically significant. A total of 245 student-day absences (5.9 percent) tied in very closely with the summer total of 49 student days (7.1 percent), thus indicating that perhaps poor attendance habits are not readily broken. In general, the same students who had high absence rates during the year in public school tended to exhibit similar attendance patterns during the summer program.

An effort was also made to ascertain whether a relationship existed between race and rate of absenteeism in both the 1965-66 school year and the summer experimental program. The hypothesis tested stated that no significant difference did exist between races in terms of rate of absence. Although arithmetically the nonwhite group was found to have a somewhat higher absence rate in both instances, the difference was not sufficiently great to be significant (chi-square computed, .05 level).

Required Regular School Attendance
5.2 percent absences = White
7.0 percent absences = Negro

Paid Summer Program Attendance
6.4 percent absences = White
8.0 percent absences = Negro

Thus it appears that dropout-prone students will attend a special shop program during time they are not required by law to attend school. Their voluntary attendance rate will be about the same as required regular school attendance if they are paid. NOTE: It seems that we have two real clues for working successfully with dropout-prone students: (1) the provision of an interesting special shop program, and (2) payment for attending school.

PROGRAM DROPOUT

Out of an original enrollment of 24 students, 23 completed the entire six weeks. One boy elected to drop out midway through the summer after establishing a record of truancies, class disruptions, and disciplinary actions. According to his own statement he did not like the rules, the instructors, nor the activities; thus he refused to attend any further meetings. Considering the fact that all of these boys had problems of varying magnitude, only one loss during the program must certainly serve as some indication of success.

Disciplinary action taken during the course of the summer program was exclusively of a financial nature. In rare and very severe cases students were suspended for one or two days with a concomitant loss of pay. Despite the fact that students rated wages very highly as a motivating factor, the prospect of a loss of money did not seem to be an effective deterrent to disruptive behavior in the shop.

Although all cases of afternoon absence from the summer research program were followed through either by phone or visit, it was often the feeling of the research staff that there were several instances of malingering despite the fact that students were losing wages each time they were absent. Additional variables which should be considered here are (1) compulsory school attendance during the regular school year tending to reduce absences, particularly among the least successful group, (2) disciplinary suspensions prevalent among the least successful during the summer program, and (3) the adverse psychological effect of attending school of any kind during vacation time, especially in the case of less mature students.

In conclusion, one may surmise that the degree of success which these students may be expected to attain either in the classroom or on the job is closely related to such factors as absenteeism and amount of satisfaction achieved as a result of interacting with peers and supervisors. In none of the variables explored was race found to be a significant differentiator. In general, the same students who had high absence rates during the year, regardless of race, tended to exhibit similar attendance patterns during the summer program.

Additional data concerning attendance will be presented later in this report when discussing the Motivational Analysis Instrument, the O. E. ranked degree of success in the summer program, and the initial follow-up of the O. E. students.

ATTITUDE SCALE

An attitude scale, which was specifically designed to measure the subject's attitude toward school shop, was administered both at the beginning of the program and at the end. The development of the Student Attitude Toward School Shop (SASS) scale has been described in the Procedures section of this report.

SASS Scores Pre-test	**SASS Scores Post-test**
Possible score 176	Possible score 176
Mean = 116.4	Mean = 124.9
Standard Deviation = 21.7	Standard Deviation = 26.4
Median = 122	Median = 125.5
Range 58 to 149	Range 34 to 174

It will be noted that the median of the second test does not vary greatly from that of the first test, but range did increase greatly between the two tests. A rank correlation of r = .47 existed between these two test scores. This correlation which is significant at the .05 level shows that there was some relationship between these scores.

The reader has probably recognized that nonparametric statistical techniques were used to analyze all research data.

A Wilcoxon matched-pairs signed-ranks test was performed on the pre- and post-test scores. This nonparametric test gives more weight to a pair which shows a large difference between two conditions than to a pair which shows a small difference. A T of 73 or under would be classified as significant at the 5 percent level with an N of 23. The test of the pre- and post-test SASS scores had a T of 77.5. Thus there was no statistically significant difference between the pre- and post-test SASS scores earned by individual students. Nevertheless, statistical significance was almost approached because if an N of 24 could have been used the required T would have been 81 or under.

In order to determine whether there was any relationship between the first SASS score and attendance in the summer project a rank correlation was run for these data. The r of −.04 was not significant, indicating that summer school attendance was unrelated to score on the attitude scale.

Rank Orders

O. E. Students	*Attendance Summer Project*	*SASS Pre-test*	*SASS Post-test*	*IQ Scores*
AA	4.5	15	18	11
B	11.5	19	12.5	19
CC	11.5	23	23	3
D	17.5	18	4	9.5
E	4.5	14	14.5	19
FF	20.5	5	9	15
GG	20.5	10	17	12
H	16	22	22	13.5
JJ	4.5	7	6.5	7.5
K	4.5	11.5	12.5	16.5
LL	17.5	9	11	21.5
MM	20.5	2	10	16.5
N	23	21	6.5	2
O	4.5	6	1	19
PP	14.5	1	16	23
Q	14.5	3.5	2	4
R	11.5	3.5	3	9.5
S	4.5	8	8	5.5
T	4.5	13	14.5	5.5
U	4.5	16	21	1
V	20.5	17	5	7.5
W	11.5	11.5	19	13.5
XX	4.5	20	20	21.5

Another question which came to mind was whether there would be any relationship between a student's IQ and the SASS scores. A rank order correlation between IQ and the pre-test produced an r of −.76 which was significant at the .01 level. This would indicate that the higher a student's IQ the lower his SASS pre-test score tended to be. A similar correlation to the one above but comparing IQ with the SASS post-test score gave an r of .08 which was not statistically significant.

RANKED SUCCESSFULNESS

Each O. E. student was assigned a team rank on the basis of eleven factors designed to determine degree of success in the summer program with

Exhibit E

STUDENT EVALUATION FORM (Group Rank)

Evaluator ____________________

Instructions: Please rank each student in your group in terms of the dimensions listed below. Consider only those students on your team.

Place a ranking number in the proper space (5 indicating best, 1 indicating worst)	*(O.E. Student Name)*	*(O.E. Student Name)*	*(O.E. Student Name)*	*(O.E. Student Name)*	*(O.E. Student Name)*
1. Punctual; on the job when supposed to be					
2. Orderly worker; cleans his tools and work area					
3. Uses tools and equipment in a correct and careful manner					
4. Interested in learning about industrial world of work					
5. Applies himself to tasks; good productivity level					
6. Gets along well with fellow students; not a troublemaker					
7. Self-directive; works independently					
8. Follows instructions accurately					
9. Responds positively to authority figures					
10. Overall employability; would you recommend him					
11. Extent of overall personal progress this summer					

Exhibit F

MOTIVATION ANALYSIS

Student ____________________

Instruction: Please fill in the space following "Most Important Reason" then pose to the student each of the pairs and check the one he considers most significant.

I. What is the most important reason for your attending this summer program?

II.

Wages received	________	________	Projects built
Attending the University	________	________	Free lunch
Free taxi ride	________	________	Just something to do
Wages received	________	________	Free lunch
Attending the University	________	________	Just something to do
Wages received	________	________	Attending the University
Projects built	________	________	Free taxi ride
Just something to do	________	________	Projects built
Wages received	________	________	Free taxi ride
Attending the University	________	________	Projects built
Just something to do	________	________	Free lunch
Free taxi ride	________	________	Attending the University
Wages received	________	________	Just something to do
Projects built	________	________	Free lunch
Free taxi ride	________	________	Free lunch

respect to other members of his team. (See Exhibit E for the instrument.) The ranking was done at the end of the summer program by each of the two teachers in training working with the team and by the laboratory aide. A number of two-way tables were developed to initially determine if any relationships existed between the instructors' rankings one through five and IQ, SASS scores, and other variables. No relationships were found to be worthy of computing chi-squares on this data.

Inasmuch as the ranking instrument did not appear highly discriminatory in some cases, the researchers concerned themselves primarily with those five individuals ranked "Most Successful" and with a like number ranked "Least Successful." Looking at a gross assessment of these ten students on the basis of attendance it was found that the Most Successful group was absent a total of 44 days from public school during the 1965-66 school year and a total of six days from the experimental summer program. This contrasts markedly with the attendance record of the Least Successful group, which had a total absenteeism of 97 days during the past year and 13 days from the summer program. Five of the six summer absences in the former group were attributable to one boy. These data obviously lend support to the proposition that success is in some manner related to attendance. This information is neither new nor surprising; however, it does emphasize the need to get these students "on the scene" if they are to be worked with effectively.

Following are the total ratings for each O. E. student as evaluated by the teachers in training and the laboratory aide in his team. The highest possible individual rating is 55. Thus with three evaluations for each O. E. student, his total rating can range from a high of 165 to a low of 33.

Team 1	*Teachers in Training*	*Lab. Aides*	*Total Points*
AA	26, 51	26	103
B	32, 48	45	125
CC	20, 13	12	45
D	40, 21	50	111
E	47, 32	32	111

Team 2	*Teachers in Training*	*Lab. Aides*	*Total Points*
FF	19, 22	11	52
GG	45, 44	36	125
H	14, 11	30	55
None	33, 33	53	99*
JJ	54, 55	55	164

* Team having only four O.E. students.

Team 3	*Teachers in Training*	*Lab. Aides*	*Total Points*
K	44, 43	50	137
LL	21, 31	33	85
MM	29, 14	17	60
N	24, 24	16	64
O	47, 53	49	149

Team 4	*Teachers in Training*	*Lab. Aides*	*Total Points*
PP	35, 46	41	122
Q	27, 22	25	74
R	17, 11	22	50
S	41, 35	22	98
T	45, 51	55	151

Team 5	*Teachers in Training*	*Lab. Aides*	*Total Points*
U	31, 36	46	113
V	55, 55	50	160
W	17, 18	21	56
XX	29, 23	15	67
None	33, 33	33	99*

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* Team having only four O. E. students.

It is interesting to note that the two students who were ranked with total points of 160 or above earned rank orders 5 and 6 on their post-test SASS scores. The student who was rated lowest in total points (45) earned the rank order of 23 on both his pre- and post- SASS tests. Thus it appears that the attitude scale measuring the O. E. students' attitudes toward school shop (SASS) and the ratings of O. E.'s successfulness in the summer program by the teachers in training and the laboratory aides in their team are measuring a similar trait.

MOTIVATION ANALYSIS

In order to determine what significant factors were at work in motivating the O. E. students to enroll in and attend the experimental program, an instrument was devised consisting of six commonly stated reasons set forth in dyad form. (See Exhibit F for the instrument.) As noted in the Procedure section, all of the students were employed at $1.00 per hour during the mornings for the Champaign Public Schools. At the close of their morning shift they were picked up by taxi, driven to the University where they received lunch, and then were paid the same hourly wage to spend the afternoon in the University shops learning and building projects of greatest interest to them. Considering the conditions noted above, the following sources of motivation were investigated: (1) wages received, (2) opportunity to be in the University, (3) having something to do, (4) getting a free lunch, (5) getting a free taxi ride, and (6) being able to build interesting projects. The instrument was administered to the students on an individual, face-to-face discussion basis in order to minimize errors due to lack of comprehension. Each student was asked to respond to 15 dyads utilizing all possible combinations of the six factors listed above. With an N = 23 a total of 345 responses were given. The "wages received" and "projects built" factors were found to be of equal importance, each receiving 82 responses. These were followed closely by the "attending University" response with a score of 75. The remaining factors were responded to as follows: having something to do, 54; free lunch, 30; free taxi ride, 22.

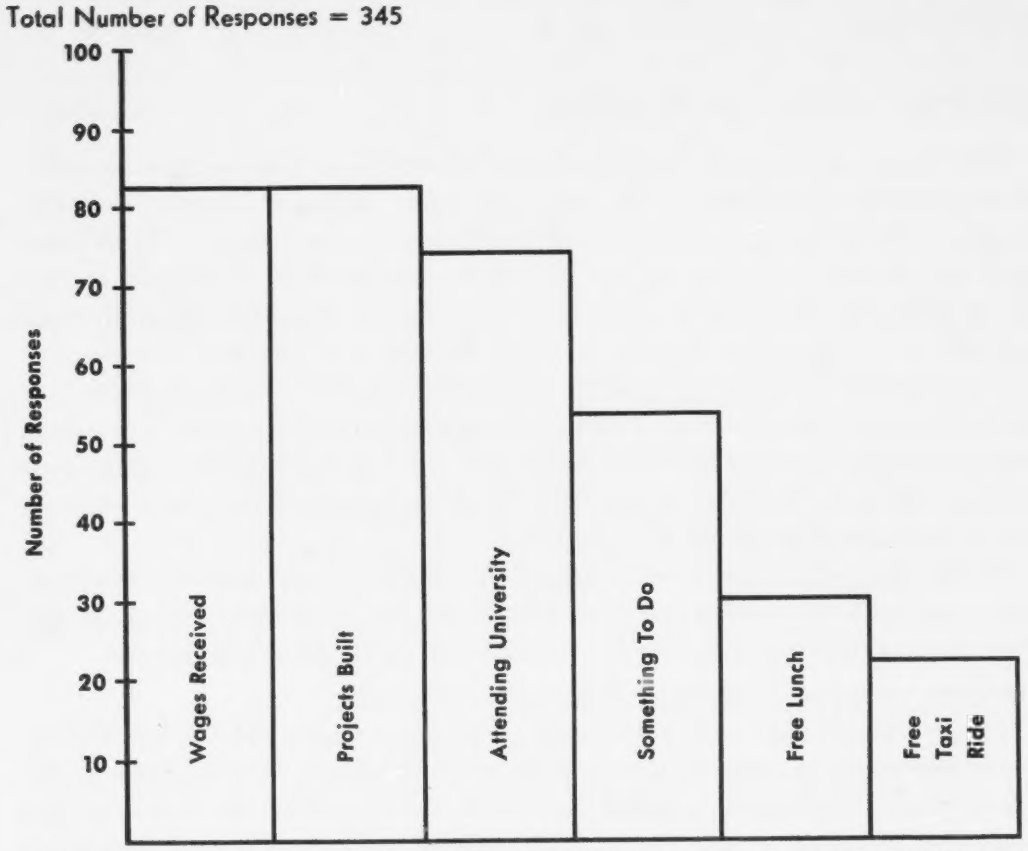


FIGURE 1. HISTOGRAM OF RESPONSES ON MOTIVATION ANALYSIS INSTRUMENT

An analysis of responses based on race was conducted. The Caucasian O. E. students had a *slightly* higher percentage of total responses for the following categories: (1) wages received, (2) attending University, and (3) something to do. The Negro O. E. students had a *slightly* higher percentage of total responses for the following categories: (1) projects built, and (2) free lunch. In only one category did the percentage of response vary according to race. Almost twice the percentages of responses in the category of free taxi ride were chosen by the Negroes. Apparently the colored O. E. students put a great deal more significance on the free taxi ride. Nevertheless this category earned the lowest percentage of response from both races.

The percentages computed for each category or factor by race were:

	White	*Negro*	*Difference*
Wages received	74.3	66.7	−7.6
Project building	70.0	73.3	+3.3
Attending University	67.1	62.2	−4.9
Something to do	50.0	42.2	−7.8
Free lunches	24.3	28.9	+4.6
Free taxi ride	14.3	26.7	+12.4

MEETING VOCATIONAL NEEDS

The intent of this sub-study was: (1) to ascertain the vocational needs of dropout-prone youth, (2) to ascertain what opportunities the six-week experimental shop class provided for meeting vocational needs, (3) to compare the needs identified in (1) with the opportunities available in (2), (4) to compare these needs with case study information on the individual subjects in the project, and (5) to draw limited conclusions.

There seems to be no conclusive research evidence as to what factors or characteristics contribute to producing an occupationally adequate adult. Any program must therefore be based upon the results of teacher judgments and the views of "experts" in the field. Such an approach may lack validity, but is essential if anything is to be done.

Based upon the literature in this field, interviewing special education personnel and the custodians with whom the O. E. students worked, Exhibit G was developed listing the vocational needs of young people.

OPPORTUNITIES FOR MEETING VOCATIONAL NEEDS

There was no way of determining *all* of what happened during the six weeks the students were in the shop activity. From the class objectives, the lesson plans developed, a check list filled out by all of the teachers and professors involved in the classroom activities, and the research assistants' observation of the shop in operation, it was felt that there were some oppor-

Exhibit G

Below is a list of items whch may be considered as vocational needs of young people. In your units of instruction how often, if ever, were opportunities available for students to fulfill these needs?

			Always	Occasionally	Never
Many	1.	An awareness of suitable job fields.	4	9	
Many	2.	Knowledge of the activities required of workers in these jobs.	3	9	1
Many	3.	Knowledge of the general requirements for job entry.	3	9	1
Many	4.	Knowledge of the training needed for job entry.	3	9	
Very Many	5.	An awareness of desirable work habits.	10	4	
Very Many	6.	The development of desirable work habits.	8	5	
Many	7.	The development of a valid self concept wih regard to such factors as work habits, personal characteristics, and abilities.	6	7	
Many	8.	The ability to work with others in cooperative activities.	7	6	
Few	9.	Knowledge and skills in the basic academic areas.		10	3
Few	10.	Knowledge of job hunting practices.		6	7
Many	11.	Knowledge and skills in possible areas of employment.	6	7	
Very Many	12.	The ability to follow instructions or a regular work routine.	10	3	
Very Many	13.	Pride in a job well done.	10	3	
Many	14.	Willingness to give a dollar's work for a dollar's pay.	6	6	1
Many	15.	Willingness to take orders.	9	3	1
		What other opportunities for meeting vocational needs can you think of which the project provided?			
Very Many	16.	_______(Actual work experiences.)[1]			
Many	17.	_______(The development of safe work habits.)[1]			

[1] Typical of the answers filled in for the blanks 16 and 17.

tunities available for meeting each of the identified vocational needs. An indication of the extent to which opportunities were available is summarized by key words *before* each numbered item on Exhibit G.

The following additional comments seem in order: No. 9 was not really a goal of this program; No. 10 is covered in another phase of the O. E. program; No. 11 provided such experiences, though not in depth; and No. 16: the whole program was such an experience. It must be noted that these summarizing keywords on Exhibit G are in no way an attempt to indicate how well the subjects did in developing these traits. It only states what opportunities were believed to be available and to what degree. The research assistant observed this program in operation and studied the subject's individual file folders. He believed that opportunities available for meeting vocational needs were in line with the needs of the individuals

Dr. Tinkham, Dr. Campbell, and Mr. MacGregor (left to right) discuss closed circuit television procedures during a weekly staff seminar.

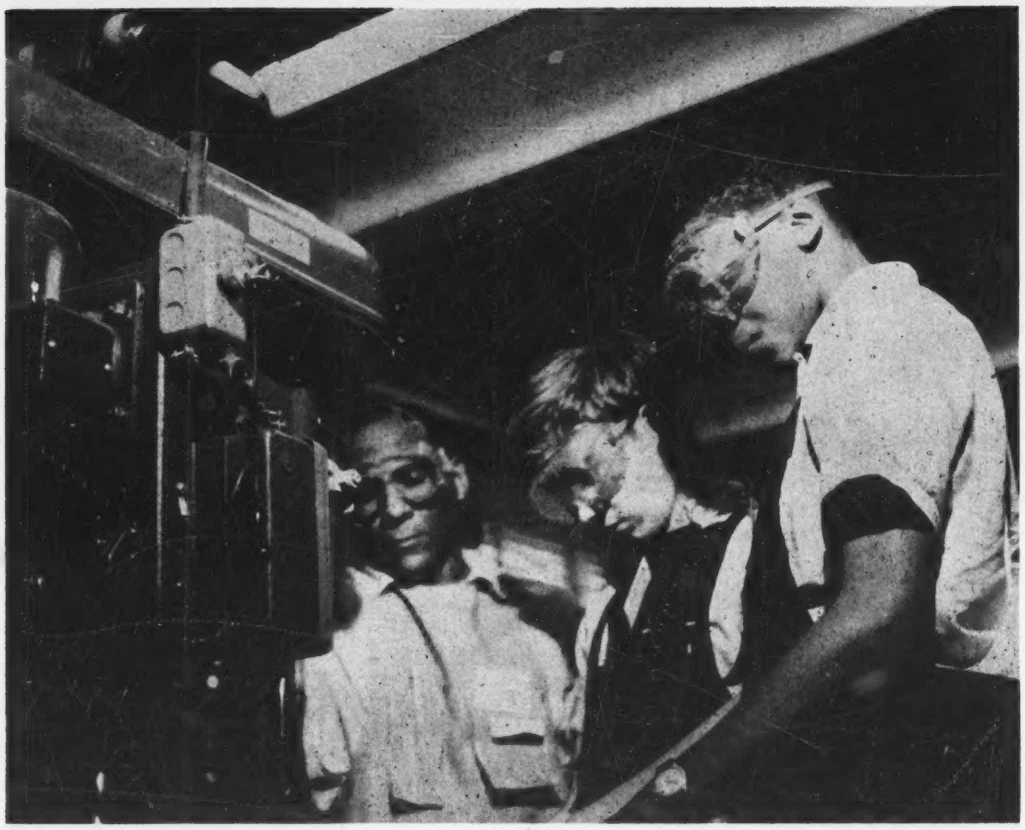
involved. Possibly less of a "school type" atmosphere would have been more appropriate for these goals, but it must be remembered that one of the overall goals was to prepare teachers in training to work with this type of student in classroom situations.

Several authors have suggested that the development of a valid self concept (No. 7) is the most vital need of dropout-prone youth. This might be reason enough to suggest a study in depth of this particular aspect. Can shop activities provide a unique opportunity for the development of a valid self-concept by dropout-prone youth?

GUIDELINES FOR METHODS

An important and very elusive requisite of an effective O. E. activity is to have some motivating factor to arouse the student interest. This factor must be real and immediate (according to authorities in the field) and must fulfill a need of the student in terms of dignity and recognition.

With this in mind, one research assistant evaluated the approaches used by the teachers in the different teams in the Votec 384 shop class in terms of what worked, and equally important, what didn't work, in achieving student interest. After evaluating the activities in each of the O. E. teams an attempt was made to prepare guidelines for developing future activities.



A teacher in training supervises two dropout-prone students on his team as they drill out a bearing surface for a drive shaft on a minibike.

Each of the teams in the graduate curriculum class (Votec 459D) were expected to prepare, duplicate, and disseminate an evaluation of each unit used in the Votec 384 shop class activities. By studying these evaluations, motivational techniques were identified which the individual teachers in training felt were successful or unsuccessful. Other sources of data used were discussions with resource people, interviews with the college students in the experimental summer program, and listening to the exit interview tapes of these same college students.

First on a list of usable methods is that the *activities should vary from normal classroom activities.* The lecture (18)[1] is a method that has usually been unsuccessful in the past, and as a result the listening skills are poorly developed (3), and attention span is short (14), (5). This reaction to lectures was mentioned in only one of the evaluations; but this writer believes that the attitude is widely held, from discussions with members of the Votec 384 group. This was also supported in the Votec 384 and Votec 459D exit interview tapes when the interviewees answered the question, "What was

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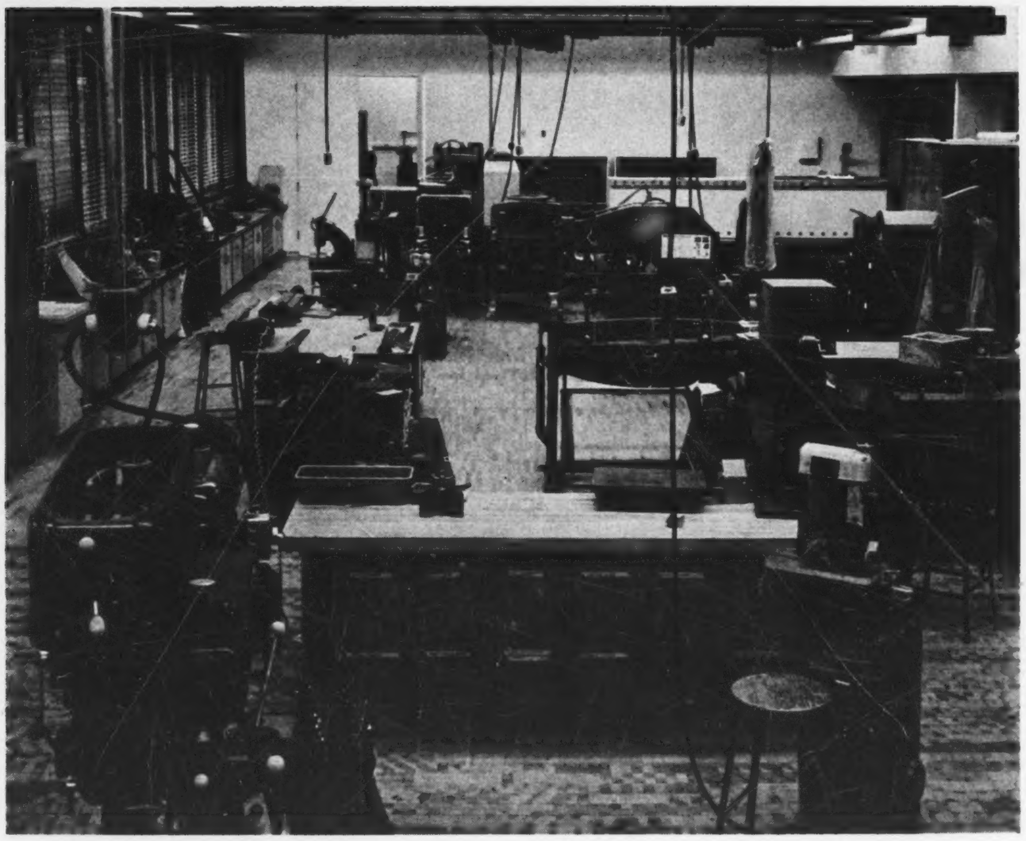
[1] Numbers refer to Data References at the end of this *Guidelines for Methods* topic.



A part of the air-conditioned laboratories which the College of Education provided for the exclusive use of the summer experimental project.

the least successful teaching technique?" "Lecture" was the most common answer.

The activities should be developed so that the *student takes an active part.* This may take the form of students operating audio-visual equipment (10), working on their own engines, go-carts (13), or scooters (20), working in a production line (16), (21), or running their own company (25).

Present time orientation was an almost universal recommendation. The most common example of its importance was in connection with demonstration of equipment or a tool just prior to its use (8), (13), (15), (17), (18), (24), (25).

Being prepared was noted as imperative. To make a lesson or activity successful the equipment should be tested in advance (13), (17), (24), (25), (15). The materials for the project should be in the shop (15), (16), (25), printed materials should be prepared in large enough quantities (10), (17), (23), (26), models of the project should be available to show to the students (11), (14), (15), (23), (25), (27), proper tools should be available (13), and student placement and equipment should be decided upon prior to demonstrations (19), (20).

The presentation of nearly all materials was initially well *structured*. This took the form of very well organized and thought-out demonstrations (19), (20), a broad field simplified to basic concepts (14), (15), or each operation listed in order with periodic checks by the teacher (23), (24), (27).

A technique often exhibited was the use of a *variety* of methods, aids, and gimmicks, (8), (9), (14). This may vary from playing checkers in regular shop time on a checkerboard built in class (15), to taking walks to the art museum on your return from a field trip (14), to group mass production projects, (16), (21), (25), to individual projects, to small group projects (14), and even to a larger group project (14). Variety is more the "spice of life" with O. E. boys than the average youngster.

Units of instruction should be *flexible*. The flexibility should be in the form of projects (14), methods (9), or shapes of the projects (9), (11), (12), (23), (24), (27).

Teamwork within the group should be encouraged (10), (14).

Units should be designed around *families of jobs* in prevocational courses (5). This was attempted in construction (14) and plastics (15).

Technology in these units should be limited, applicable, not too difficult (3), (4), and concrete rather than abstract (13).

The activities should *stress practice* of needed skills (8), (3). *Assignments* should have purpose and meaning (8), (3).

The student-teacher relationships should be positive and complementary, (16), (24). The teacher should avoid pressuring the student (15), (13), but should expect accuracy (23) and hopefully develop pride-of-workmanship (14), (27). To accomplish this, the activity should be so designed that the student is assured of success (23), should be challenging (7), but should avoid tedious handwork such as extensive sanding (24), forming metal, (17), or polishing (25).

Informal discussions were not too successful in some cases because of a reluctance to contribute (12). However, small groups in quiet areas show some promise (14). The discussion leader must have a talent for this. A successful discussion was caught on video tape at the first of the summer when Subject W and his teammates were discussing one of Mr. Rebhorn's gouged dishes.

Various aids were used by the different team teachers. Some felt that a *variety* of aids should be used in teaching individual points so that needed repetition would not become boring (8).

Films were effective in giving a broader and more real picture of on-the-job work (14), and acquainted the student with industrial processes and activities (9), (14). Showing them backwards can be humorous as well as an excellent review (14).

Film strips were used and generally accepted. If a student can read the script and another operate the projector it can help to interest the student because he feels he is a part of the operation (10). Fill-in sheets can be helpful (23). One caution, however; film strips can become boring, and long sessions should be avoided (23).

Field trips were quite successful in showing the student on-the-job activities and working conditions (9), (14), (13), (17). If possible, they should be dramatic in order to get the student interested (14). Discussion following the field trip is an excellent opportunity to learn about wages, entry jobs, necessary training, etc. (11). One group clarified some distribution questions by taking the group to pick up some boxes for use in the production activity (25).

Displays were recommended (5), and an excellent response was noted when one was put up in the showcase outside the shop. This not only interested the students but also drew a lot of attention from outsiders.

The *language master* was used by only two groups. In these cases it seemed to be quite successful (9). By enriching its use with the *Sears-Roebuck Catalog* and *The Encyclopedia Britannica* its effectiveness was increased (9).

The *TV cameras* had at least two motivational effects on the students. They felt more personal value if they were being taped, and the making of the TV commercial by Team 5 noticeably motivated the group (25).

In the one situation in which the *overhead projector* was used, there was difficulty in holding the students' attention (8); however, the overhead projector has been quite successful in the Champaign schools with this same type of student (5).

A room where limited interruptions can occur is one of the most effective aids one can have (12), (15), (17).

Gimmicks. The O. E. students require that the teacher go the second mile with them. Here is where the teachers can achieve a relationship with some students who are difficult to get close to. Gimmicks assume a variety of poses. Dr. Tinkham took slides of the boys at work and showed them to the boys. On a fishing trip organized by another of the teachers, definite leadership qualities were noticed in a boy who had labeled himself a follower.

One teacher took most of a period to play checkers with his boys for orange slice candy, and one helped his students make a TV commercial. Another interrupted the routing of a field trip to go through an art museum. Many unusual items were brought in for discussion in the warm-up session which in itself is a unique gimmick. Several students decided to purchase a book of world records because of the warm-up session. Some teachers took Polaroid pictures of their students so the students might see themselves at work. One teacher waited until a student asked a question or asked for a tool before content was presented and then it was presented on an individual basis.

In conclusion it appears that learning units should have the following: structure; variety in presentation and activities; student involvement; present orientation; flexibility; reinforcement; enrichment through films, field trips, displays, and any other available audio-visual materials; gimmicks; and understanding teachers.

DATA REFERENCES

1. O. E. Exit Interview Tapes
2. Teachers-in-Training Exit Interview Tapes
3. Mrs. John Bustard, Supervisor of Learning Handicapped, Champaign Schools, Champaign, Illinois
4. Guy Jones, Coordinator of Prevocational Education, Champaign Schools
5. Neil MacGregor, Supervisor of O. E. Program, Champaign Schools
6. Kenneth Stratton, Supervisor of Teachers in O. E. Program, Champaign Schools
7. Dr. Reid Zehrback, Supervisor of School Psychologists, Champaign Schools

Team 1

8. Measurement Unit and Evaluation
9. Plastics Unit and Evaluation
10. Sheet Metal Unit and Evaluation
11. Wood, Metal, and Electricity Unit and Evaluation

Team 2

12. Lamination Unit and Evaluation
13. Power Mechanics Unit and Evaluation

Team 3

14. Construction Unit and Evaluation
15. Plastics Unit and Evaluation
16. Production (wood) Unit and Evaluation
17. Sheet Metal Unit and Evaluation
18. Sketching and Measurement Unit and Evaluation

Team 4

19. Arc Welding Lecture and Evaluation
20. Arc Welding Lecture—Demonstration and Evaluation
21. Woodworking Unit and Evaluation

Team 5

22. Arc Welding Unit and Evaluation
23. Book End Unit and Evaluation
24. Gouged Dish (wood) Unit and Evaluation
25. Plastics Unit and Evaluation

26. Tool Box Unit and Evaluation (theoretical)
27. Wood Sculpture Unit and Evaluation

BAILES INTERACTION SCALE

An attempt was made to identify the frequency of observable patterns of behavior exhibited by the O. E. students. The Robert Bailes small group interaction model was employed to determine the differences, if any, between the groups. Each group was observed for a period of one hour, and each student in that group had his responses recorded on the Bailes Interaction Scale. The scale has twelve categories:

1. Shows solidarity, raises other's status, gives help, reward
2. Shows tension release, jokes, laughs, shows satisfaction
3. Agrees, shows passive acceptance, understands, concurs, complies
4. Gives suggestions, direction, implying autonomy for others
5. Gives opinion, evaluation, analysis, expresses feeling, wish
6. Gives orientation, information repeats, clarifies, confirms
7. Asks for orientation, information, repetition, confirmation
8. Asks for opinion, evaluation, analysis, expression of feeling
9. Asks for suggestion, direction, possible ways of action
10. Disagrees, shows passive rejection, formality, withholds help
11. Shows tension, asks for help, withdraws out of field
12. Shows antagonism, deflates other's status, defends or asserts self

The intent of this instrument was to identify group leaders, followers, and those who exhibited antigroup behavior. After these observations were completed, a reliability check was made. Each teacher in training was asked to rate each of his students according to the predominant behavior exhibited by the O. E. student with regard to leadership qualities, follower qualities, and antigroup qualities.

The result of this questionnaire showed that the teachers in training of each group closely agreed on the evaluation of their students. Only on four students did the teachers disagree.

None of the students scored in the top half of the leadership category, which may be another indicator of dropout-prone youths. However, the students who made the most responses in the leadership category were considered by their teachers as having leadership qualities, even though all of these students had more responses in the follower group than in the leadership group.

The Bailes scale and the teacher-in-training ratings were in perfect agreement in terms of rank order. In other words, the students who had the most and the least leadership qualities, etc., were indicated as such on both measures.

The scores of all the O. E. students were added together within each scale category to form a composite profile for each team. These profiles were distinctly different in nature. At this point, it was decided to see if there were any observable differences among the teachers which would account for some of the differences and correlate with the team profiles.

Although each teacher in training might be different in his teaching approach, it seemed logical that a comparison could be made of the positive versus the negative responses given by each teacher. This was recorded by keeping a tally of the number of negative responses during the period of time it took for a teacher to give twenty positive responses. The results ranged from zero negative responses to 50 percent negative responses. For each team the teacher-in-training scores were added together and then placed in rank order.

This teacher-in-training rating correlated perfectly with the team profile in the following way: an increase in negative responses by a teacher lowers the desirable qualities of a student in terms of group behavior. A decrease in negative responses is reflected in the student's behavior, which tends to promote group solidarity and leadership.

CONSISTENCIES AND INCONSISTENCIES

Consistencies and inconsistencies in the data available on the dropout-prone students in the summer project were identified and analyzed. Four sources of information have been utilized, and consistencies and inconsistencies for each participating student have been noted.

Sources of data were:

Student Interview (SI):	Information given by the student about himself and his reactions to various questions. (See pp. 119-21.)
Parental Interview (PI):	A home interview with the parents of each student giving their reactions to his problems. (See pp. 116-17.)
School Psychologists' Report (SPR):	Various data collected by consultations with each student and from his school records. (See pp. 112-16.)
Instructors' Comments (IC):	Compounded from comments on the parental interviews held at the end of the project. (See pp. 136-37.)

After careful study and notation of these four sources of data for each student, the following have been identified:

Subject AA

CONSISTENCY: *Subject shows an interest in mechanics.*

Sources:
SI: Question 31—Answer: "Mechanic."
PI: Question 1—Answer: "Mechanical."
SPR: Mechanical interest was indicated on page 2 of report.

CONSISTENCY: *Subject liked his shop classes.*
Sources:
SI: Question 27—Answer: "Shop."
PI: Question 3—Answer: "Likes them."
Question 5—Answer: "Shop."

INCONSISTENCY: *Student and parents do not agree on which school subjects the pupil dislikes.*
Sources:
SI: Question 28—Answer: "Dislikes social studies and English."
PI: Question 6—Answer: "None that parents know of."

Subject B
CONSISTENCY: *Subject has a very bad attitude toward his teachers.*
Sources:
SI: Question 24—Answer: "Don't get along with other teachers—I've got a bad reputation."
PI: Question 7—Answer: "Very bad."

CONSISTENCY: *Subject shows a dislike for school.*
Sources:
SI: Question 55—Answer: "I can't stand school."
PI: Question 2—Answer: "Dislikes."

INCONSISTENCY: *Subject and parents disagree about subject's attitude toward woodworking aspect of shop.*
Sources:
SI: Question 28—Answer: "Shop—woodworking."
Question 31—Answer: "Like to go into carpentry."
PI: Question 3—Answer: "He likes shop except woods and electricity."

Subject CC
CONSISTENCY: *Subject expresses an interest in music.*
Sources:
SI: Question 31—Answer: "Vocalist."
SPR: "Expressed a wish to be a singer."

CONSISTENCY: *Subject has no interest in school.*
Sources:
SI: Question 41—Answer: "I don't really care... doesn't mean anything to me."
SPR: "Has expressed dislike for school...."

INCONSISTENCY: *Subject and parents disagree on how he gets along with his family.*
Sources:
PI: Question 9—Answer: "Ok."
SPR: "He openly admits dislike of his father and mother and says there is no one in his family that he feels comfortable around."
IC: "Never at home most of the time."

INCONSISTENCY: *Subject says he dislikes shop and parents say he likes it.*
Sources:
SI: Question 34—Answer: "Hates it—gets tired of handling stupid tools, cutting crummy metal—wasn't cut out for it."
PI: Question 3—Answer: "Likes shop—likes to fool around with mechanics."

Subject D
CONSISTENCY: *Subject is a slow learner.*
Sources:
SI: Question 38—Answer: "Slow."

SPR: "Past evaluations indicate that he is a slow learner."

CONSISTENCY: *Subject indicates he likes his shop classes.*
Sources:
SI: Question 34—Answer: "Like shop class."
PI: Question 3—Answer: "Likes it."
SPR: "Subject best liked: 'Vocational.'"

INCONSISTENCY: *Subject contradicts himself about teaching.*
Sources:
SI: Question 25—Answer: "Don't want to be a teacher."
Question 31—Answer: "I would like to teach I. A."

Subject E

CONSISTENCY: *Subject and psychologists agree on vocational goal.*
Sources:
SI: Questions 31 and 35—Answers: "Truck driver."
SPR: "Mentioned he wants to drive a truck...when he gets out of school."

CONSISTENCY: *Subject does not get along with his younger sister.*
Sources:
SI: Question 4—Answer: "...waiting for his sister to die."
PI: Question 9—Answer: "...one sister one year younger is in same grade at school—constant competition with her."

CONSISTENCY: *Subject liked his school shop classes.*
Sources:
SI: Question 27—Answer: "Shop."
PI: Question 3—Answer: "He loved his shop classes, especially auto shop."
SPR: Subject liked best: "Shop."

CONSISTENCY: *Subject does not like any kind of school work.*
Sources:
SI: Question 54—Answer: "Doesn't like it."
Question 55—Answer: "Does not like any kind of school work."
PI: Question 26—Answer: "Has no interest in outside reading."
Question 28—Answer: "Inability to do regular school work."

INCONSISTENCY: *Subject and parents disagree about his attitude toward teachers.*
Sources:
SI: Question 24—Answer: "Yes."
PI: Question 7—Answer: "Teachers dumber than he is."

Subject FF

CONSISTENCY: *Likes school shop better than other classes.*
Sources:
SI: Question 27—Answer: "I. A. classes."
PI: Question 3—Answer: "Excellent."

CONSISTENCY: *Subject is a slow, easy-going person.*
Sources:
SPR: "Slow-moving person and seemed unconcerned about anything except himself."
IC: "Slow, easy-going—nothing bothers or excites him—lazy."

CONSISTENCY: *Subject's home situation is not good.*

Sources:
SI: Question 54—Answer: "Brothers and sisters bother him."
SPR: "There are 15 people in his family including nine half-brothers and sisters."
IC: "Home situation doesn't look good."

INCONSISTENCY: *Subject and parents disagree about his attitude toward teachers.*
Sources:
SI: Question 24—Answer: "No!"
PI: Question 7—Answer: "Excellent."

INCONSISTENCY: *Subject does not like science but instructors say he is good.*
Sources:
PI: Question 6—Answer: "Science."
IC: "Pretty good science boy."

Subject GG

CONSISTENCY: *Subject wants some kind of technical training.*
Sources:
SI: Question 32—Answer: "Wants technical-type school."
IC: "Wants to be some type of technician."

CONSISTENCY: *Subject liked his school shop classes.*
Sources:
PI: Question 3—Answer: ". . .likes his shop classes."
IC: "Seemed to have a knack for shop."
"Did a good job around the shop this summer."

INCONSISTENCY: *Subject says he gets along with other people, but other sources disagree.*
Sources:
SI: Question 9—Answer: "With someone if possible."
Question 12—Answer: "Yes, real well."
PI: Question 10—Answer: "Does not associate with people in the neighborhood."
SPR: "He tends not to involve himself to any great extent in interpersonal relationships."
"Tends to be a loner."

INCONSISTENCY: *Subject and psychologists disagree on rate of learning.*
Sources:
SI: Question 38—Answer: "Fast."
SPR: "Found to be functioning within the slow-learner range of intelligence."

Subject H

CONSISTENCY: *Subject likes to draw.*
Sources:
SI: Question 34—Answer: "Likes to draw as artist, but not as a draftsman."
PI: Question 1—Answer: "Likes to draw."

CONSISTENCY: *Subject has a reading problem.*
Sources:
SI: Question 45—Answer: "Does not try to read at all. . . has never read a complete book."
PI: Question 28—Answer: "Main trouble is the reading and speech problem which has been with him since first grade."
SPR: "Has little self-reliance in his reading ability."

INCONSISTENCY: *Subject has shown varied attitudes toward shop.*
Sources:
PI: Question 3—Answer: "Indicates a positive attitude toward shop-type classes."

SPR: "Very cooperative and skillful in school shop."
IC: "Impossible to deal with in a shop situation"
"Doesn't belong in a vocational-type situation."

INCONSISTENCY: *Parents and instructors disagree on whether subject likes school or not.*
Sources:
PI: Question 2—Answer: "He seems to like school although he doesn't do well."
IC: "He stressed the boring aspects of school many times."

Subject I
CONSISTENCY: *Subject dislikes discipline and is developing into a discipline problem.*
Sources:
SI: Question 25—Answer: "Be more lenient—dislikes discipline and authority."
SPR: "Described by school personnel as developing into a discipline problem."
IC: "Trying hard to be a juvenile delinquent and doing a good job of it."

CONSISTENCY: *Subject seemed to like his shop.*
Sources:
SI: Question 37—Answer: "Like to work with tools."
PI: Question 3—Answer: "Ok."
IC: "Could have worked well in a shop situation."

INCONSISTENCY: *Subject incongruous on his voiced vocational goal.*
Sources:
SI: Question 31—Answer: "Semi driver."
SPR: "Selected navy career as vocational goal."

Subject JJ
CONSISTENCY: *Subject likes shop.*
Sources:
SI: Question 27—Answer: ". . .shop."
Question 28—Answer: "Shop."
PI: Question 3—Answer: "Shop is his best liked subject."
IC: "Probably accomplished more than anyone else on the team."
"Would fit anywhere in shop vocation."

INCONSISTENCY: *Many varied answers regarding his vocational goals.*
Sources:
SI: Question 31—Answer: "Work on cars."
Question 35—Answer: "Barber."
SPR: "Very interested in dogs and expressed interest in working with dogs."
"Mentioned working for Bell Telephone and needing to know electronics."

Subject K
CONSISTENCY: *Subject's family background is not too good.*
Sources:
SPR: "Home background not good at all."
PI: Question 9—Answer: "Family arguments, nothing serious."
IC: "Can't get along with his dad."

CONSISTENCY: *Subject is short-tempered and moody.*
Sources:
PI: Question 28—Answer: "Short-temper, moody, stubbornness."
IC: "Stubborn, quick-tempered and moody."

CONSISTENCY: *Subject is a slow learner.*
Sources:
SI: Question 38—Answer: "Slow."
SPR: "Physician described abnormalities as mental retardation."
IC: "Somewhat of a slow learner."

INCONSISTENCY: *Subject feels he is a follower; instructors think he is a leader.*
Sources:
SI: Question 13—Answer: "Follower."
IC: "Real talent for leadership."

Subject LL

CONSISTENCY: *Subject has an interest in sports.*
Sources:
SI: Question 1—Answer: "Play football, baseball, basketball."
PI: Question 1—Answer: "Sports."
IC: "Fine athlete for his age."

CONSISTENCY: *Subject is fairly close to his mother.*
Sources:
SI: Question 10—Answer: "Mother."
SPR: "Fairly close attachment to his mother."
IC: "Great deal of respect for his mother."

CONSISTENCY: *Subject's family life is not good.*
Sources:
PI: Question 9—Answer: "Argues."
SPR: "Home situation described as culturally deprived."
IC: "No continuity of family life at all."

INCONSISTENCY: *Subject and instructors disagree on vocational goals.*
Sources:
SI: Question 31—Answer: "General Motors."
IC: "No vocational aspiration because job orientation is just not part of his life."

Subject MM

INCONSISTENCY: *Subject and parents disagree on his attitude toward shop.*
Sources:
SI: Question 28—Answer: School Subject—Vocations. Activities liked there—"Nothing."
PI: Question 3—Answer: "He likes them."

INCONSISTENCY: *Subject's attitude toward math received varied answers.*
Sources:
SI: Question 28—Answer: School Subject—Math. Activities like there—"Nothing."
PI: Question 5—Answer: "Math."
SPR: "Best liked school subject is math."

Subject N

CONSISTENCY: *Subject does not like school.*
Sources:
SI: Question 27—Answer: "I don't like school."
PI: Question 2—Answer: "Negative view."
SPR: "Attitude toward school is quite negative."
IC: ". . . definitely dislikes school."

CONSISTENCY: *Subject feels he is a brat.*
Sources:
SI: Question 24a—Answer: "I am a brat."
IC: "Realized he is a brat."

INCONSISTENCY: *Subject and psychologists do not agree on vocational goals.*
Sources:
SI: Questions 31 and 35—Answers: “Machinist.”
SPR: “He has no idea of what he would like to do in the future with respect to a vocation.”

Subject O
CONSISTENCY: *Occupational goal of subject is to be a mechanic.”*
Sources:
SI: Questions 31 and 35—Answers: “Mechanic.”
SPR: “His occupational goal is to be an auto mechanic.”
IC: “Seems to want to be a mechanic.”

CONSISTENCY: *Subject is a shy, timid person.*
Sources:
SPR: “He is shy, timid.”
IC: “Very quiet and timid.”

Subject P
CONSISTENCY: *Subject has keen interest in music.*
Sources:
SI: Question 11—Answer: “Band . . . bass guitar.”
Question 13—Answer: “He leads the group.”
PI: Question 1—Answer: “Pupil has keen interest in music . . . currently participating in music combo.”

CONSISTENCY: *TV repair is one of the things subject enjoys most.*
Sources:
SI: Question 31—Answer: “Fixing TV’s.”
Question 35—Answer: “Fixing TV’s—the only thing I like to do.”
PI: Question 1—Answer: “Pupil has keen interest in radio and TV repair.”
Question 24—Answer: “Tinkering with radio and TV parts.”

Subject Q
CONSISTENCY: *Subject appears to like his shop classes.*
Sources:
SI: Question 5—Answer: “. . . and shop.”
PI: Question 3—Answer: “He seems to like (them).”

CONSISTENCY: *Subject shows undesirable behavior at times.*
Sources:
PI: Question 12—Answer: “Tends to throw or smash.”
SPR: “Exhibits undesirable behavior to elicit attention.”

INCONSISTENCY: *Subject and psychologists disagree on his vocational goals.*
Sources:
SI: Questions 31 and 35—Answer: “Plumber.”
SPR: “Has set no vocational goals—has some desire to go to college to be a forest ranger.”

Subject R
CONSISTENCY: *Subject appears to like shop better than any other school subject.*
Sources:
SI: Questions 27 and 28—Answer: “Shop.”
PI: Question 3—Answer: “Likes some areas.”
Question 5—School subjects liked: “None.”

CONSISTENCY: *Subject does not like school.*
Sources:
PI: Question 2—“Doesn’t like.”
SPR: “Does as little as possible in classroom.”
“Attitude toward school is quite obviously negative.”

Subject S

CONSISTENCY: *Subject interested in attending a trade school.*
Sources:
SI: Question 31—Answer: "Yes."
PI: Question 17—Answer: "...thinks he would like to go to a trade school."

INCONSISTENCY: *Disagreements concerning subject's opinion of school.*
Sources:
PI: Question 17—Answer: "No need...he likes school."
SPR: "Feels school is a difficult and unhappy place."

INCONSISTENCY: *Parents and psychologists disagree about whether subject causes trouble.*
Sources:
PI: Question 28—Answer: "...father feels son tries and hasn't caused any trouble."
SPR: "Has a history of involvements with the law."

Subject T

CONSISTENCY: *Subject has mechanical interests.*
Sources:
SI: Questions 31 and 35—Answers: "Mechanics, any kind." "Mechanics."
PI: Question 1—Answer: "Likes mechanical things."
Question 20—Answer: "Good at mechanical things."

CONSISTENCY: *Subject shows negative attitude towards school.*
Sources:
SI: Question 54—Answer: "Terrible."
Question 55—Answer: "No, takes up all the time."
PI: Question 2—Answer: "Doesn't like it too well."
Question 26—Answer: "Doesn't like to read, seldom brings school books home."

Subject U

CONSISTENCY: *Subject appears to like shop class better than his other subjects.*
Sources:
SI: Question 28—Answer: "Shop."
PI: Question 3—Answer: "Industrial Arts is his favorite subject."
Question 5—Answer: "Industrial Arts, O. E. Class."

CONSISTENCY: *Subject wants to be a cab driver.*
Sources:
SI: Questions 31 and 35—Answer: "Cab driver."
PI: Question 8—Answer: "No, he sees no connection between school and his chosen vocation—cab driver."

CONSISTENCY: *Subject seems to distrust people.*
Sources:
SPR: "Described as having extreme distrust in people."
IC: "Didn't want to fill out daily schedule—says what, when, and with whom he does something is his own business."

Subject V

CONSISTENCY: *Subject has a special interest in cars.*
Sources:
SI: Question 8—Answer: "Cars, hot rods, and especially dragsters."
PI: Question 1—Answer: "Cars, especially dragsters."
SPR: "Very interested in...cars."

CONSISTENCY: *Subject is changing over to becoming a potential leader.*
Sources:
SI: Question 13—Answer: "Changing from follower to leader role."
PI: Question 10—Answer: "Is likeable and turning into a leader."
IC: "Developing into a potential leader."

INCONSISTENCY: *Subject and parents disagree on how he feels about his shop classes.*
Sources:
SI: Question 27—Answer: "Creativeness in shop projects."
Question 28—Answer: "Shop courses."
PI: Question 3—Answer: "They are ok, but get to be too routine sometimes."

Subject W

CONSISTENCY: *Subject has an interest in auto mechanics.*
Sources:
SI: Questions 31 and 35—Answers: "Auto mechanic."
PI: Question 1—Answer: "Interested in auto mechanics."
SPR: "Has expressed an interest in auto mechanics."
"Hopes to become an auto mechanic."
IC: "Has desire to be auto mechanic."

INCONSISTENCY: *Subject and psychologists disagree on attitude toward reading.*
Sources:
SI: Question 45—Answer: "Don't like to read."
SPR: "Seems to enjoy reading."

Subject XX

CONSISTENCY: *Subject's special interest is basketball.*
Sources:
SI: Questions 2 and 3—Answers: "Basketball." "Very much interest. . . basketball."
PI: Question 1—Answer: "Basketball."
IC: "Basketball seems to be his whole life."

CONSISTENCY: *Subject shows no interest one way or another about shop.*
Sources:
SI: Questions 27 and 28—Answers: "No mention of shop."
IC: "No particular interest in one area or another of shop work."

In summarizing the data available on consistencies and inconsistencies, several points should be brought out:

Initially, one might think that most of the O. E. students would have shown an interest in some type of mechanics, but in actuality only four out of the twenty-four participants expressed mechanical interests—three of the four were auto mechanics. This conclusion was drawn from the Student Interviews and Parental Interviews sections of the data reviewed.

More positive responses were given toward school shop classes than toward the above item—mechanics. Ten of the twenty-four subjects indicated they liked school shop or liked their shop classes better than their other school subjects.

On a field trip to Creative Buildings, Inc., during their building construction unit, a team examines the cuts made by a skilled worker.

It was surprising to find that only five of the twenty-four socially maladjusted students indicated any family trouble. Of these five, three were Negro and two Caucasian.

Five of the twenty-four O. E. students showed uncertainties regarding their vocational goals. This is verified by the wide divergence of answers given by the O. E. students regarding questions about their vocational goals. Student answers differed widely when Student Interviews, Parental Interviews, School Psychologists' Reports, and Instructor's Comments were compared.

A third of the O. E. subjects' answers (8 out of 24) were found to disagree with their parents' answers on various questions. Typical questions at variance were those regarding students' attitude toward their teachers, what school subjects the students liked or disliked, and the students' attitudes toward their shop classes.

In reviewing the Student Interviews, Parental Interviews, School Psychologists' Reports, and Instructors' Comments, there were 48 consistencies noted and 24 inconsistencies noted. Thus, considering that we were dealing with the same student, but from different viewpoints, the percentage of inconsistencies found was high.

George Jefferson and Vernon Burgener (left to right), representatives of the project funding agency, discuss their observations of the program in action with Dr. Campbell.

OCCUPATIONAL PREFERENCE TEST

Approximately two weeks after the beginning of the summer experimental program one of the research assistants administered the *Kuder Preference Record Occupational Form D.* The research assistant felt that this test information would greatly add to the information we had in each O. E. student's cumulative folder and that he would also then be able to prepare individual student profile sheets for guidance purposes.

The printed copies of this Kuder test were administered to the twenty-two O. E. students present on a typical day. The test was administered by the research assistant who explained the printed directions and who was available to answer any questions the O. E. students might have while taking the test. The test was not administered on a one-to-one basis, nor was each item read to the students as was the administrative procedure for the pre- and post-test SASS scales. Thus the students took the test in a group setting.

Using the verification test key, only two student answer sheets tested out with reliable results. Two tested out with doubtful reliability. Eighteen tested out with unreliable results. Because of the general unreliable results obtained, the one absent student was not requested to take the test.

This experience provided the research team with no usable data regarding the O. E.'s occupational preference, as measured by the Form D test.

However, it did strongly verify the project director's initial hunch that the SASS scale had to be read to the O. E. student on an individual basis to obtain reliable results.

O. E. FOLLOW-UP

With the full realization that a longitudinal follow-up is needed to more fully and accurately evaluate the effects of the summer program upon the O. E. students, an initial O. E. follow-up study was undertaken within the limited time span of the research contract.

A questionnaire similar to the questionnaire used in the O. E. exit interviews served as the focal point of a follow-up study performed in February, 1967. The interviews were conducted by a single research assistant, and each individual O. E. student was interviewed in his own school. As an additional control upon the results, a record was kept of the number of days absent, for each boy, during equal times in 1965-1966, and in 1966-1967.

1. *Did you tell your friends about the summer program?* Yes—15; no—5.
Why? Five apathetic responses; the rest were positive.

2. *Did you recommend the summer program to your friends?* Yes—17; no—3.
Why? Three apathetic responses; the rest were positive.

3. *Would you participate in a program like this next summer if you were invited?* Yes—14; no—5; not sure—1.
Why not? "Want more money"—3; "not going to be around"—1; "don't feel I would be invited"—1; "it's too much trouble"—1. (The rest enjoyed the program and spoke highly of it.)

4. *Would you if there was no pay involved?* Yes—16; unsure—5; no—9.

5. *What do you feel was the greatest weakness of our summer program?* "No weakness"—8; "not enough money"—2; "morning job"—3; "discipline problem"—4; "too much like school"—2; "not enough teachers"—1.

6. *What do you feel was the greatest strength of our summer program?* "Shop work"—18 (some boys emphasized smallness of groups); "food"—2.

7. *Describe your feeling toward school shop before our summer project and your feeling toward school shop now.* "Like school shop more now"—7; "like it less this year"—1; "about the same"—4; "both ok"—8.

8. *In general, what is your attitude toward all the school shop classes you have had?* "Like them very much"—12; "like them somewhat"—8; "don't know"—0; "dislike them somewhat"—0; "dislike them very much"—0.

9. *What did you do in the summer program that has helped you in school this year?* "Nothing of help"—10; "something of help"—10.

10. *What did you do in the summer program that has hurt you in school this year?* "Nothing hurt"—19; "got out of being used to discipline"—1.

2

Days Absent

Subject	1965-1966		1966-1967
AA	1		1
B	2		2
CC	3	Less often	1
D	4	Less often	2
E	4	More often	7
FF	5	Less often	2
GG	5	Less often	3
H	5		5
I	5	More often	12
JJ	6	Less often	2
K	6	More often	16
LL	8	Less often	7
MM	9	Less often	4
N	9	Less often	8
O	11	Less often	8
PP	12	Less often	5
Q	12	Less often	11
R	13	Less often	10
S	18	Less often	11
T	21	Less often	6

Three of the O. E. students had dropped out of school as of February 1, 1967. One other boy had been permanently suspended.

Three of the O. E. students had been absent the same amount of time in 1965-1966 as in 1966-1967. Three boys had been absent more often in 1966-1967 than in 1965-1966. The remaining 14 boys had been absent less often in 1966-1967 than in a corresponding time period during 1965-1966.

An additional follow-up was conducted by the project director at the end of the first regular school year following the experimental summer program. The question explored was very simple—"How many of the dropout-prone students dropped out of school *during the first school year* after the experimental summer program?"

The following students had dropped out or were forced out of school:

E: dropped at end of first semester

FF: expelled; must stay out of school for at least one year

H: dropped; later he *reentered*

I: dropped middle of second semester

MM: dropped by court action; sent to state reformatory

Thus four O. E. students out of the original 24 who had started in our summer program had permanently dropped out of school or had been expelled, for a dropout rate of 17 percent. One of these students (Subject I) did not complete the summer experimental program. If this one dropout of the summer program is excluded, 13 percent of the O. E. students who completed the summer program had dropped out of school during the next regular school year.

To determine if these two dropout rates are high or low, the reader should compare them with the dropout rate of the control group which follows.

CONTROL GROUP

From the original population of O. E. students who were willing to participate in the experimental summer project, twenty-four were chosen by means of a stratified random sample. From this same population ten were chosen for the control group also by means of a stratified random sample. The stratification referred only to race. An attempt was made to obtain approximately half Caucasian and half Negro in each group.

The control group consisted of five white and five colored O. E. students. As stated earlier, these students had the same Champaign O. E. counselors available to them throughout the summer as the students in the experimental program. The main difference was that the control group were provided employment at jobs *in* the community. This work was mainly unskilled labor and some of the places of employment were: Chanute Air Force Base, Burnham City Hospital, Alexander Book Bindery, Champaign News Agency, Court Yard Cafeteria, Hunter Lumber Company, and Rick's IGA.

The control group were contacted during the summer and arrangements were made, at their convenience, for administering the SASS scale. Release time, with pay, was arranged for each O. E. student, and free transportation was provided to and from the University. The SASS scale was administered in a quiet place, on a one-to-one basis, and with each scale item read to the subject. Thus the administration of the attitude scale paralleled that of the experimental students.

The results of the SASS scale for the control group were:

Possible Score	176
Mean	119
Median	118
Range	111 to 130

This corresponds very closely to the SASS scale results obtained from the experimental students the first time they took the instrument.

Possible score	176
Mean	116.4
Median	122
Range	58 to 149

The mean and median are very similar and the range is also similar with the exception of one low score in the experimental group. There was undoubtedly a low score also in the control group because one subject came in at the scheduled time, but as soon as he saw the test he immediately turned around and left the building, refusing to cooperate.

It appears that the stratified random sampling procedure was working, as we appear to have drawn two very similar groups from the original population.

The follow-up of the control group concerning the number of students who had dropped out of school *during the first school year* after running the experimental summer program revealed:

Control AA: dropped early in first semester
Control E: dropped; sent to state reformatory
Control H: dropped beginning of first semester
Control I: dropped 10/18/66; reentered 2/3/67; dropped March, 1967
Control JJ: dropped December, 1966; *reentered* April, 1967

Four of the ten O. E. students in the control group had permanently dropped out of school for a dropout rate of 40 percent. It will be remembered that the O. E. students who started in the experimental program had a dropout rate of 17 percent. If the one dropout of the summer program is not counted, then the dropout rate of experimental students who completed the summer program was 13 percent. NOTE: *The dropout rate of O. E. students in the control group was well over double the dropout rate of O. E. students who participated in the experimental summer research program.*

A chi-square test revealed that this was not a statistically significant difference. With the small sample size of the control group consisting of ten students, it is extremely difficult to rule out the chance variable with such small numbers available for each cell.

Data Presentation and Analysis of the Graduate Curriculum Class

ONE SAMPLE CURRICULUM UNIT

Each of the five teams in the Graduate Curriculum Class (Votec 459D) developed several complete units of instructional material to be tried out with the O. E. students in the laboratory class. These materials, along with the class reports on summarizations of research studies and articles dealing with the dropout-prone student form a stack over two inches high. It was extremely difficult to eliminate from the final manuscript several of these excellent curriculum materials which had been custom-designed for the summer experimental project. Nevertheless, this has been done and *only* one unit is presented. It is hoped that this unit will provide the reader with at least a frame of reference for the kinds of curriculum materials developed. It was a course requirement that each unit contain an evaluation based on the results obtained from its actual use in the laboratory class.

Group 5: Bill Eardley
Eldon Rebhorn
Bruce Wisner

LESSON PLAN

Area of Instruction: Plastics

More specifically, this unit is on blow-forming of acrylic sheet plastic. It will be on free form blowing using the air pressure on the Di-Acro plastics press. We will set up the machines and processes on a production basis with the possibility of producing and then selling a marketable product.

Objectives

1. To develop an understanding of the use of plastics in industrial products.

2. To develop knowledge of the working characteristics and skill in the use of the material, acrylic plastic, by using the blow forming process.

3. To develop knowledge and skill in the safe and proper usage of the Di-Acro plastics press, the band saw, the disc sander, the buffer, and the hand tools necessary to make an acrylic plastic article.

4. To gain experience in the processing of a product from its production through to the marketing of the product to the public.

5. To develop experience in setting up a production line to efficiently produce a product.

6. To develop safe and healthy attitudes toward work.
   a. To develop a good attitude toward the division of labor—giving and receiving orders, delegating responsibility to individuals in the group, and completing the menial tasks along with the more rewarding operations.
   b. To develop responsibility on the part of the individual toward his group (being on time, keeping up with individual duties, and sharing the load of work).

7. To gain experience in performing separate operations on a production line.

8. To gain experience in inspecting and evaluating a product in terms of its salable quality.

9. To develop enough skill in the assigned operation to produce articles at a quantity and quality that will compensate for the time spent on their production.

10. To develop experience in packaging, advertising, and selling the product.

11. To develop skills in the handling of the finances associated with such a task.
    a. Purchase materials for producing, packaging, and selling the product.
    b. Establish time to make the product, cost of materials, and the sale price.
    c. Invest or borrow money, open checking account, pay the bills for materials, sales tax, and other debts.

12. To develop good attitudes toward self and all others (social behavior).

Presentation

1. Show the example of a finished plastic bowl. Bowl should be wrapped in tissue paper and packaged in a suitable box as though it were purchased in a store. Observe the immediate on-the-spot reactions.

2. Demonstrate the blow-forming, band sawing, sanding, and buffing operations.

3. Have student check the "Questionnaire on Salad Bowl."

4. Formulate the company positions and duties.
   a. President—foreman
   b. Vice President—set-up man—inspector
   c. Secretary—purchasing agent
   d. Treasurer—salesman

5. Have foreman and set-up man prepare major positions of the production line, fill the job assignments, and prepare for work.

6. Help the secretary make out the order for materials and the treasurer establish the financial system (visit the bank).

7. Review safety instructions and procedures for using each machine.

8. Experiment on the production line. (Foreman)

9. Discuss use of "Production Report" form.

10. Produce suitable examples for public relations. (Inspector)

11. Explore suitable packaging unit. (Purchasing agent)

12. Possibly visit a box company.

13. Prepare for sales place, price, and conditions. (Treasurer)

14. Prepare and present sales brochure.
15. Prepare and present commercial for TV taping session.
16. Produce, inspect, and sell the product.
17. Make out production and financial report.
18. Show film on "Plastics: Industrial Processes and Products."
19. Visit a "competitor" (a plastic firm) by a field trip.

Evaluation

Were the students interested? Did they take part in electing officers with maturity? Was the product completed with quality? How many articles were made in a day? What price was charged? Did they ever produce enough to make their hourly pay rate? What parts of the effort should be eliminated or added? What sales techniques were used? Were the buyers enthused with their purchase? What other products would work in a similar situation? Would the system work with a larger group? Was there a change in interest, attitude, and motivation on the part of the O. E. student?

QUESTIONNAIRE FOR SALAD BOWL

Group 5

Four students reporting

1. Would you like to have a bowl like this one? 4 Yes No
2. How much would you pay for this bowl? **\$1.00 \$.50 \$3.00 \$3.00**
3. What do you think the price would be at Robeson's Department Store? **\$3.50 \$3.00 \$4.00 \$2.98**
4. What would be the basic operations or jobs in making this bowl?

   1. ____________________
   2. ____________________
   3. ____________________
   4. ____________________
   5. ____________________
   6. ____________________
   7. ____________________
   8. ____________________
   9. ____________________
   10. ____________________

5. Do you think your group could make the bowl? 4 Yes No
6. How many good quality bowls could your group make in a day? **5—5—10—10**
7. If your group was a company making this bowl who do you think would be the best
   a. foreman? **Mike James Mike Tom**
   b. inspector? **Mike Mike Tom Tom**
   c. salesman? **Tom Tom James Mike**
   d. treasurer? **Larry Larry James**
8. Would you have a suggestion for a name for your group company?
   Happy Farm
   Tunny Company
   Whitton Enterprises

SALES BROCHURE

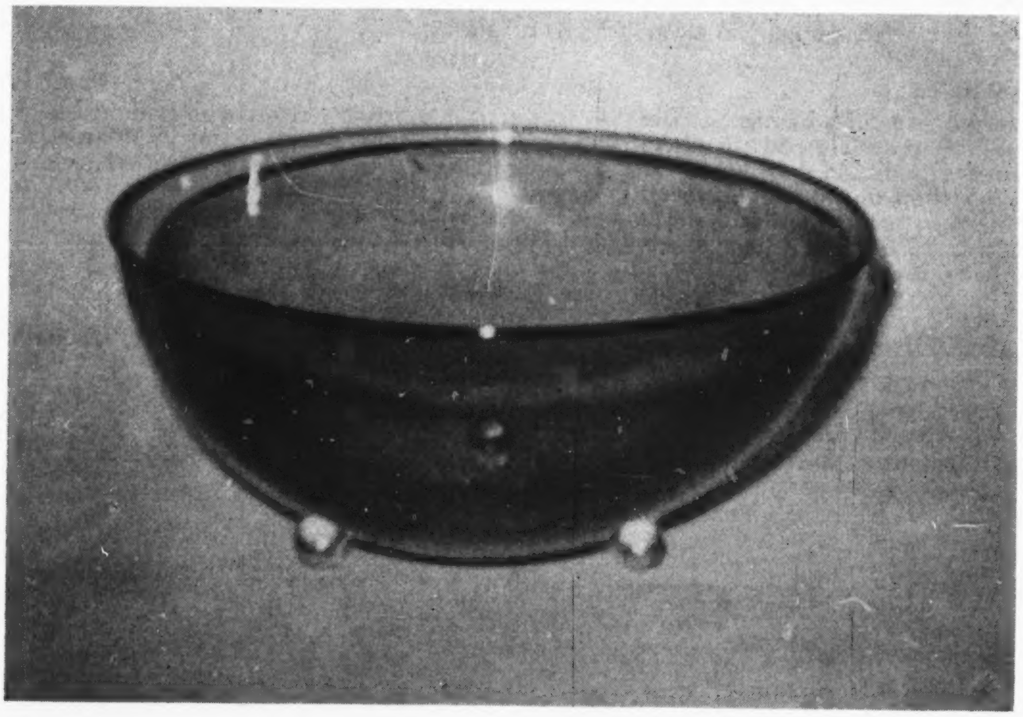
The following five pages reproduce the sales brochure prepared and distributed by the members of Whitton Enterprise to advertise their product.

WHITTON ENTERPRISE

Plastic Products

Mike Whitton—President
Tom Williams—Vice President

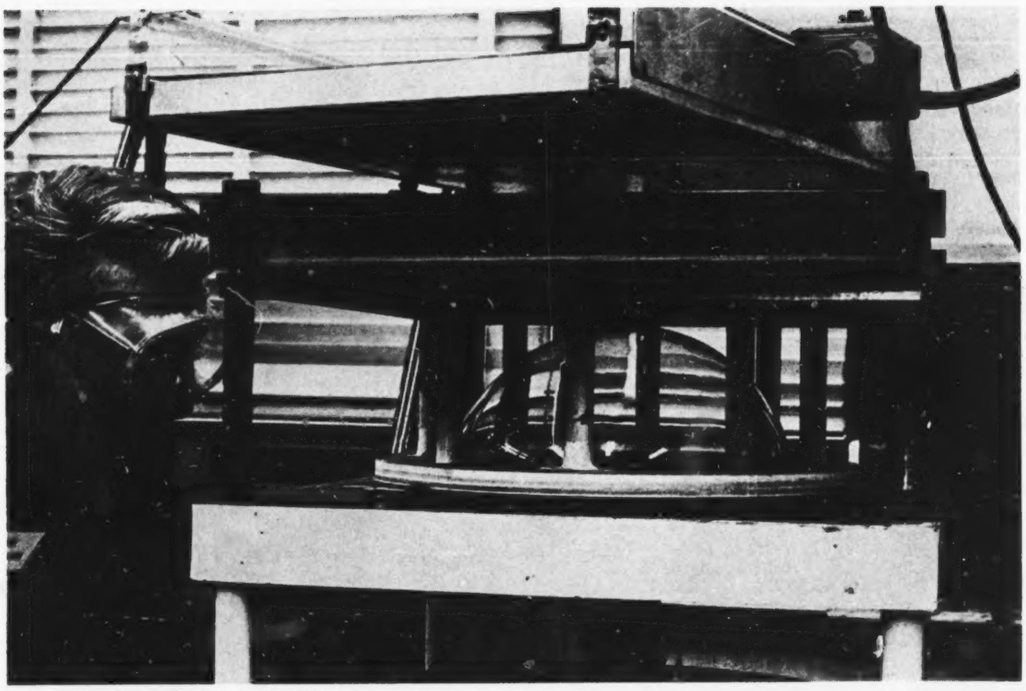
James Wood—Secretary
Larry Walker—Treasurer



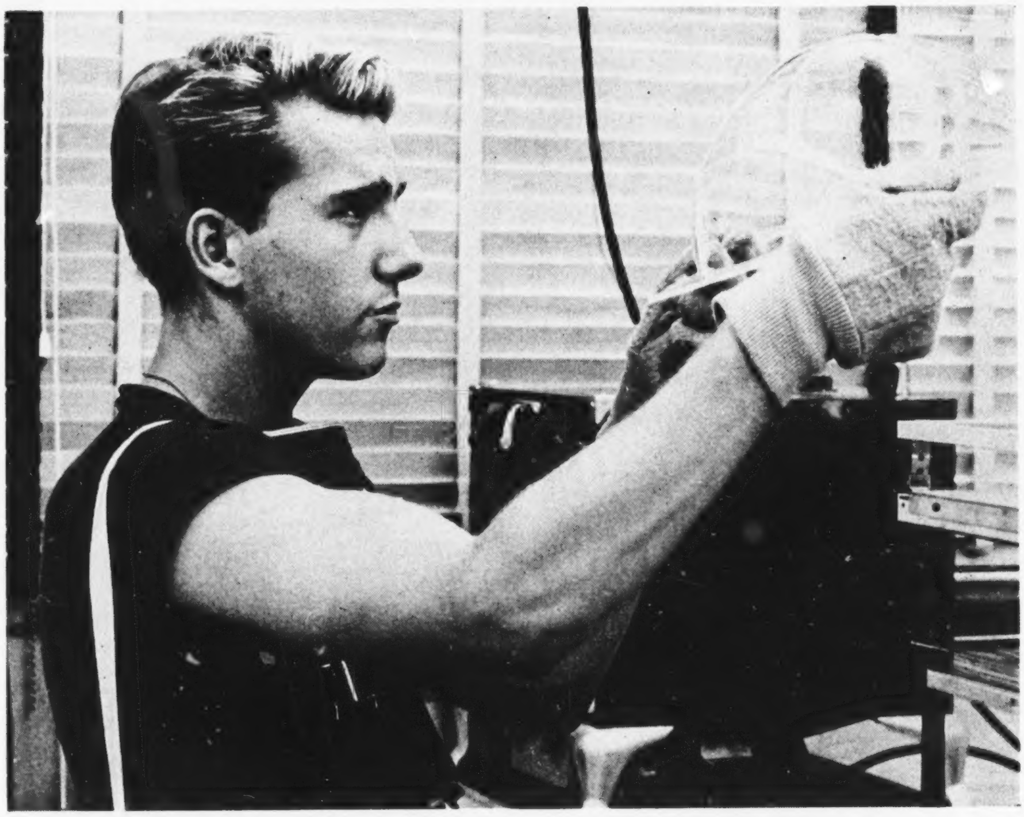
Whitton Enterprise is a nonprofit organization of students working in co-operation with the University of Illinois in a vocational orientated shop program. This organization manufactures from 5 to 10 high quality plastic bowls each day. It was formed on July 11, 1966. All operations, including purchasing of supplies, selling of stock, producing the product, and supervising production, are done by the officers of the organization.

There are no secrets in the manufacture of our salad bowl, just fine material and workmanship. We feel our product can meet your needs very economically. This bowl has many uses besides being a superior salad bowl... just use your imagination.... Yes it can do all of those things and more. Just ask your friendly salesman. It's great at dinner, parties, etc., for garden salads, punch, jello salads, party snacks, ice, pudding, popcorn, and it's decorative too!

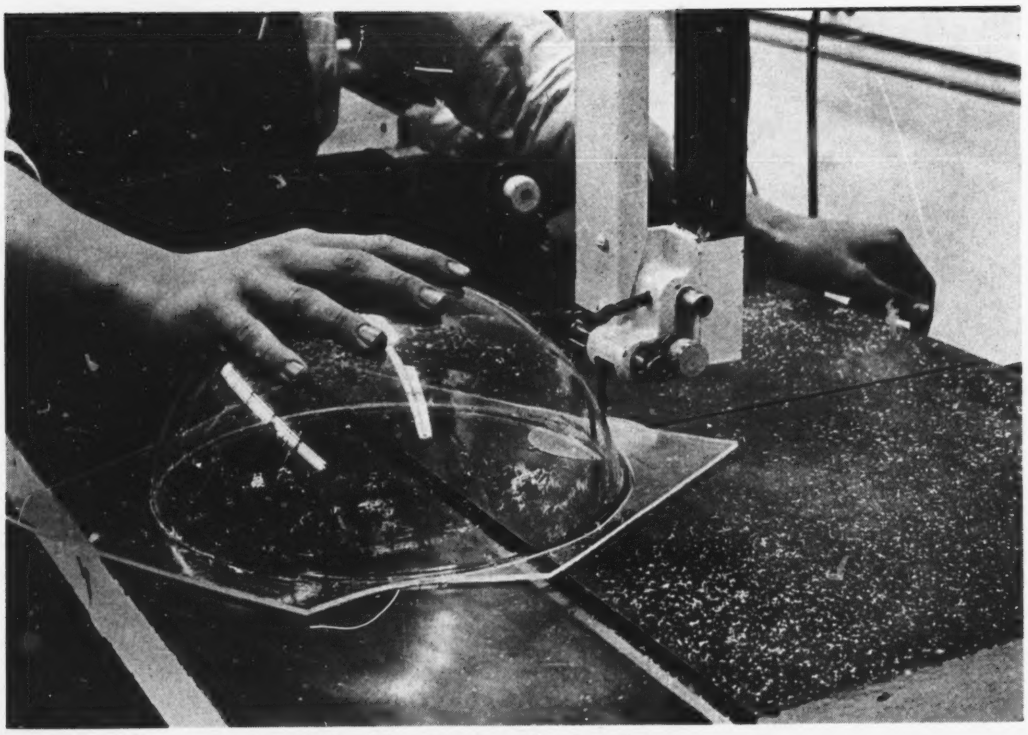
There are many reasons why Whitton Enterprise is the finest buy in a bowl. We invite comparison. We believe our product is well engineered and manufactured and will last for years of service. Compare product and price. **Make Whitton your salad bowl choice.**



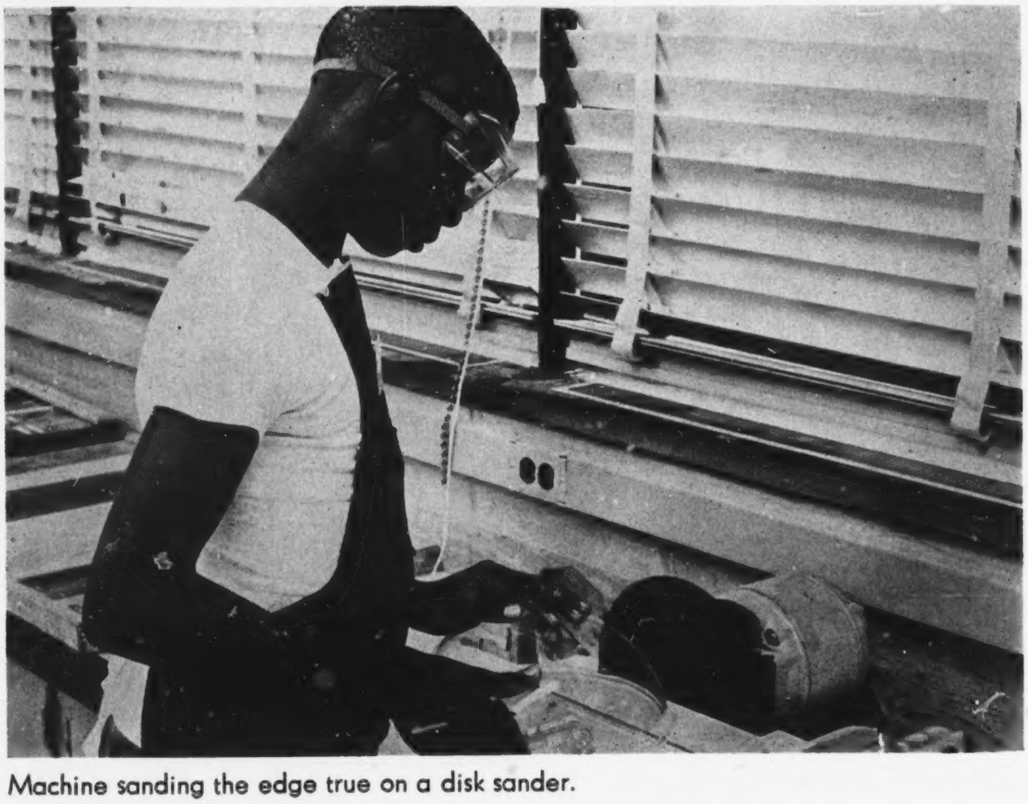
Blowing the high quality plex-glass in the press.



Inspecting the product from the press.

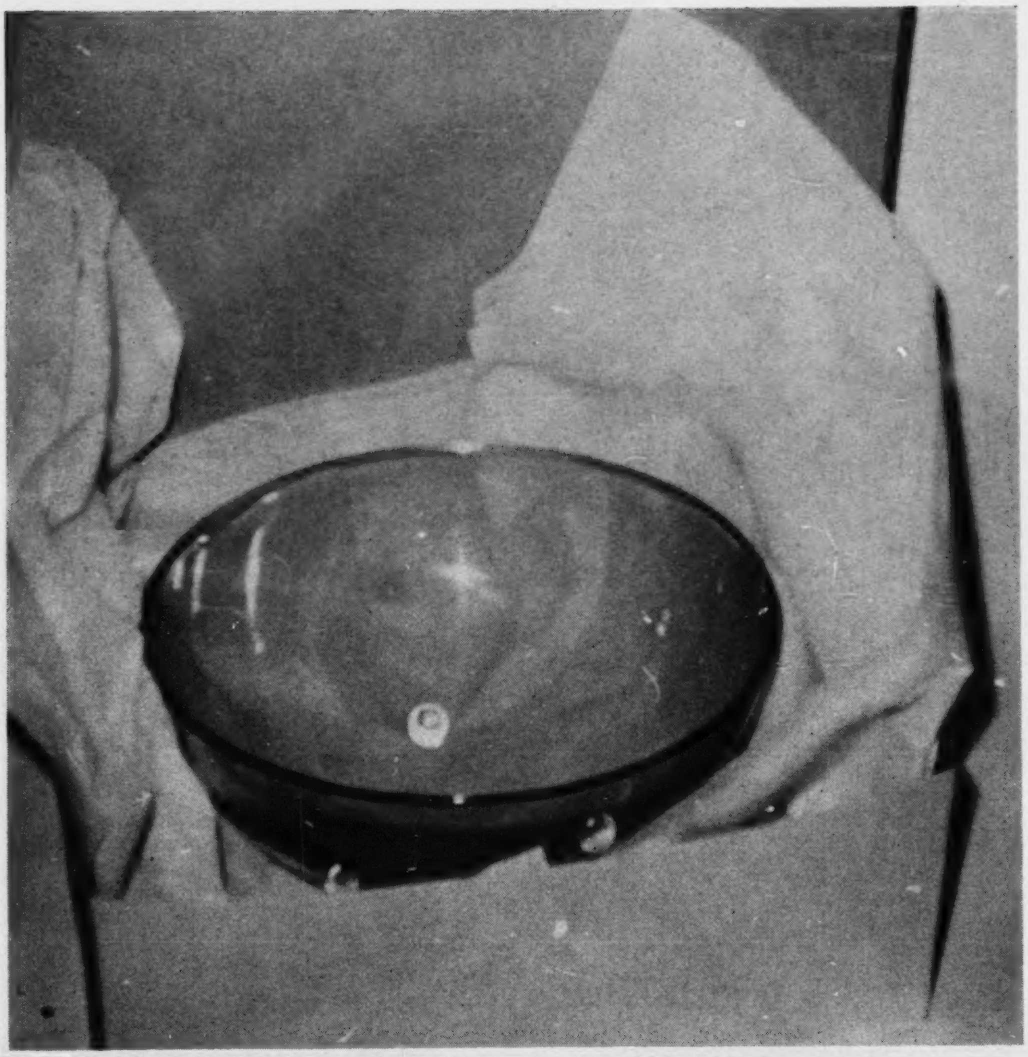


Trimming the excess plastic from the bowl on the bandsaw.



Machine sanding the edge true on a disk sander.

Final hand filing to true the edge.



Packed and ready for delivery to you. How many would you like?

Group 5

USE OF "PRODUCTION REPORT"

Plastic Salad Bowl

The attached Production Report sheet is to be used by our group in their company's mass production of plastic bowls. It is to be used here just as such a sheet is used in most modern industry for accounting, incentive payroll, etc. The exact way such a sheet is used will be explained to the students by the instructors. The production report will be used by our group as an aid in actually figuring cost and individual production line progress. The reports are to be handed in to the foreman at the end of each day. The foreman keeps them for use at company and group meetings.

On the sheet the student must list the actual step or operation done (inspection, set-up, etc.). Each time the student changes jobs or takes a break it should be listed. Also the number of articles worked on and the number ruined are to be listed.

WHITTON ENTERPRISE

Production Report

Mike Whitton—President
Tom Williams—Vice President
James Wood—Secretary
Larry Walker—Treasurer

List each major job performed today with time began and time stopped (include breaks on the production report)

TIME BEGAN	TIME STOPPED	JOB PERFORMED	NO. OF UNITS WORKED ON

Date ____________________

Signature ____________________

Position ____________________

WHITTON ENTERPRISE

Salad Bowl Operation

Production Report

Quantity produced		31
samples for sales promotion	2	
complimentary products	7	
quantity sold at $2.50	12	
quantity to be sold	10	

Financial Report

Expenditures

Material for mold (billed to project)	
Sheet plastic (billed to project)	
Plastic feet (billed to project)	
Plastic cement (billed to project)	
Boxes (paid by student funds)	$ 8.50
Tissue paper	3.27
Repay shares	12.00
Interest on shares	1.20
Total expenditures handled	$24.97

Credits

Funds from shareholders	$12.00
Sale of products	30.00
Total credits	$42.00

Credits	$42.00
Expenditures	24.97
Refunded to the project	$17.03

Report as of August 5, 1966

Group 5: Bill Eardley
Eldon Rebhorn
Bruce Wisner

EVALUATION OF PLASTICS LESSON PLAN

Area of Instruction: Plastics
A unit on mass producing and marketing a blow-formed acrylic plastic salad bowl.

Objectives
The various activities listed below are directed to meet one or more of the objectives of the unit.

Activities	**Objectives**											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Evaluate company and product (questionnaire)				X		X		X				X
2. Demonstration of machines and processes	X	X	X	X	X		X		X			
3. Establish company personnel						X						X
4. Set up and fill job assignments				X	X	X						X
5. Review safety instructions			X			X	X		X			X
6. Order materials	X			X							X	
7. Prepare for borrowing money											X	X
8. Sell shares						X					X	X
9. Explore packaging possibilities				X	X			X		X	X	
10. Pick up boxes at warehouse				X	X					X		X
11. Experiment with each operation	X	X	X	X	X	X	X		X			X
12. Produce product on production line	X	X	X	X	X	X	X		X			X
13. Record production on report				X	X	X	X		X		X	
14. Inspect products				X	X	X	X	X		X		X
15. Package the article				X	X		X			X		
16. Establish sales price				X				X		X	X	X
17. Prepare and present commercial for TV tape				X		X		X		X		X
18. Prepare and present advertising brochure				X		X		X		X		X
19. Market the bowl				X		X				X	X	X
20. Make financial report				X						X	X	
21. View film on plastics	X	X										
22. Take field trip to plastics firm	X	X										

Presentation

1. The example was very well received. The students wanted to know how to make it. They soon thought that they could make and sell the product.

2. The students were particularly interested in the blow forming process. The other steps

were not demonstrated at this time as the students had had experiences in using the other machines. They seemed to know the procedure from the forming through the buffing.

3. The questionnaire was used. The results are given in the sample form of this unit.

4. The company positions were filled with good attitudes on the part of each student. Perhaps the questionnaire gave them some quiet thought before discussing it with their peers. All students went along with the company name of Whitton Enterprises. (It was suggested by Mike Whitton.)

5. The foreman and the set-up man worked quite well at establishing and filling the production line positions. They also had the use of information from the questionnaire, the demonstration, and from discussion.

6. An order was made by the purchasing agent, treasurer, and teacher. Funds for purchasing boxes and tissue were obtained by selling one-dollar shares to students. Ten percent interest was granted on the shares. One student bought five shares, another three, and an instructor bought four as the other students were reluctant to invest at that time.

7. Operational and safety instructions were then given on individual machines of the line. The pieces of equipment were not moved to a convenient position. The products were hauled from position to position.

8. The experimentation step was time consuming. The machinery was not in good working condition. It also took experimentation after the equipment was in operation in order to perfect the product. Various methods of heating, forming, machine sanding, and filing were used. The plastics oven finally produced the best heating method. A new improved ring through which the plastic is blown was made. A second disc sander with fine abrasive was used after first rough sanding on a previous sander. The filing and buffing of the edges was omitted. Thus a "satin edge" was produced instead of a buffed bowl edge. More ledge was left on the bowl than originally planned. It made a stronger bowl and an easier disc-sanding operation. The plastic balls used as feet were glued on with Duco cement by the use of a fixture for proper placement. Small flats were sanded on the spheres where glued.

9. The production reports were partially used the first couple of days only. Too much time down on experimentation caused much disinterest by the student in using them. Perhaps the instructor could have brought them back to using the production reports with some encouragement.

10. The completed samples were not made until late in the process as the feet were not received until late. The one instructor's sample was used as an example when needed.

11. A lightweight cake box was found at a local box warehouse. The minimum quantity sold was one hundred—five hundred sheets on the tissue paper. These were purchased as the materials were still less expensive than possible elsewhere even in smaller quantities.

12. The group went to the warehouse to pick up the materials. No products were manufactured here; however, the students did see where the materials came from locally.

13. The sales price was established by joint agreement. The cost of the materials was about $1.50. The sales price was first set at $3.00. However, when the edges were left satin, the price was reduced to $2.50. It was decided to make a closed circuit TV taped commercial as this medium was already in use in the program. A sales brochure was also considered as sales promotion material.

14. A sample brochure is included in this unit.

15. The commercial was made featuring the product and the various students in the processes of making the product, and indicated the way in which the product could be purchased.

16. The products were produced fairly successfully. Some problems were encountered in blow-forming the bowl uniformly. As they were finishing up the unit, the students had developed satisfactory skills in their work. The bowls were sold through students, teachers, the TV commercial, and the brochure. One student's mother sold six bowls by taking the brochure to work with her.

17. The production and financial report is included in this unit.

18. The motion picture film was shown. The student interest was high.

19. No field trip was taken.

Evaluation

Many of the evaluation points have already been made in the presentation section. Others are as follows:

The students were, for the most part, quite interested in the project. They did complete the product with fair quality. The quantity output never became very high. Under the conditions present in this study, the students would not be able to produce enough to pay their wages on an hourly rate. The buffing and hand work should be avoided. The students were willing to hand file, sand, and polish one bowl for themselves but not for production! Other products could be made. The product must be very carefully selected. It must be simply constructed. Avoid products which might cause problems. The product must be of unusually good design; it needs to be a project that will sell. It can't look "homemade." The production line efficiency was impaired because the machines were also being used by people from other groups. If each person on a team is assigned a meaningful task on the project, production should run smoothly.

One green plastic bowl was gift wrapped and presented as a surprise wedding gift to Mr. Gary Cordier (one of the team teachers) and Mrs. Cordier. The presentation was made at 3:30 on the students' final day in class, and was undertaken with enthusiasm, maturity, and leadership on the students' part.

KINESCOPES

In addition to this final written report, three kinescopes are available. These 16-millimeter movies were made from selected portions of the actual closed-circuit video tapes used to tie together the graduate curriculum class and the teachers-in-training class. If the reader wishes to actually see this graduate curriculum class in operation, it is strongly recommended that he view *Part II* entitled *Preparing Teachers.* A more complete understanding of the summer experimental program can be obtained by viewing the complete three-part set. The films have the general title *Experimental Program to Prepare Vocational-Technical Teachers for Laboratory Classes Designed for Dropout-Prone Youth.* The complete title and directions for obtaining the films may be found on the inside back cover of this report.

ANALYSIS OF DIARIES

As previously noted, this section on Data Presentation and Analysis has been subdivided into three groups: (1) Researchers, (2) Graduate Curriculum Class, and (3) Teachers-in-Training Class. Although there was a great deal of desirable overlap between these three groups, the reader was assured that, whenever possible, the data would be presented and analyzed within only one of the group divisions. In accord with this procedure, *all* the diaries will be discussed in this section.

During the summer program, the participants in the 459D and the 384 classes were requested to keep daily records of their impressions in relation to the strengths, weaknesses, and overall value of the project. The five lab. aides were also requested to keep such records. The initial plan called for the collection of the various diaries at the end of each week; at that time a research assistant was supposed to evaluate and record the various comments in an attempt to guide the actions and activities of the next week. However, due to the complexity and fast pace of the program, this task proved to be impossible to accomplish.

One month after the program ended another research assistant was employed to analyze and evaluate the records. It was decided to employ an "outsider" for this task in the belief that a person having no previous contact with any phase of the program would be more objective and not influenced by memories of good or bad aspects of the past summer's project.

Upon initial analysis and evaluation of the records, it was decided that the subjective nature of the records, as well as the discrepancies in attendance requirements for the 459D class, which did not meet on Mondays as the 384 class did, precluded a totally quantitative summary presentation. In place of such an approach, an attempt was made to combine the most extreme value judgments recorded with a simple quantitative analysis of the total response spectrum and thus utilize the desirable functions of both the literal and linear methodology of evaluation.

Briefly stated, the steps in the process of analysis were:

1. Each diary was read and a notation of each value judgment or pertinent comment was made with respect to either a positive (this is good) or a negative (this is not good) view about the project-related action or activity. It was reasonable to force the responses into these two categorical extremes simply because many responses and comments were decidedly positive or negative; the marginal comment or response would gain no more by being characterized as one or the other than a very positive response would lose by being recorded simply as positive.

2. Each diary was re-read, and upon the basis of the notations already made, a "daily value"—either positive or negative—for each day of each individual's participation was assigned. In cases of a "no comment" being the only entry for a specific day, the day was grouped as a negative response.

3. A table utilizing the positive and negative criteria was organized. This table facilitated an analysis of the response spectrum for each participant, each team, and the entire group for each day of the project. "Leader" refers to the participant who was a member of both the 459D and the 384 classes, but who kept a separate diary for each. By following the table from *left to right* it is possible to establish the response spectrum *for each participant*. By following the table from *top to bottom* it is possible to establish for all participants the response spectrum *for a given day*.

The "daily value," assigned by means of a simple majority of responses, either positive (P) or negative (N), was used as a basis for determining "good team days." A good team day was defined as a day that had one or no negative responses from the participants of a specific team. It will be

Table I

ANALYSIS OF ALL PROJECT DIARIES

		Orientation Week					First Week					Second Week					Third Week				
		M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
Team 1																					
459D[1]	1	X	P	P	N	P	X	P	P	N	P	X	P	P	/	P	X	P	P	P	P
459D	2	X	P	P	P	N	X	P	P	P	P	X	P	N	P	P	X	P	P	P	P
459D	3	X	N	P	N	P	X	N	N	N	N	X	P	P	P	P	X	N	P	N	N
Leader 459D[2]	4	X	X	X	X	X	X	P	P	P	P	X	N	N	P	P	X	P	P	P	P
Leader 384	5	X	X	X	X	X	P	P	P	P	P	X	P	P	P	P	N	N	P	P	P
384	6	X	X	X	X	X	P	N	N	P	P	X	N	P	P	N	/	P	P	P	P
Aide	7	X	X	X	X	X	N	N	P	P	N	X	N	N	P*	P*	N	N	N*	N	N
Team 2																					
459D	8	X	P	P	P	P	X	P	P	P	P	X	N	P	P	P	X	P	P	P	P
459D	9	X	N	N	N	N	X	P	P	P	N	X	N	N	N	N	X	N	N	N	P
Leader 459D	10	X	N	N	N	N	X	P	P	P	P	X	P	P	P	N	X	N	N	N	N
Leader 384	11	X	X	X	X	X	N	P	P	P	P	X	N	P	N	P	N	N	N	N	P
384	12	X	X	X	X	X	P	N	P	P	P	X	N	P	N	P	N	P	P	P	P
Aide	13	X	X	X	X	X	P	P*	N*	N*	P*	X	N	N	N	P	P	N	N	N	P*
Team 3																					
459D	14	X	N	N	N	N	X	N	P	N	N	X	N	P	P	P	X	P	P	P	P
459D	15	X	N	N	N	N	X	N	N	N	N	X	N	P	P	N	X	N	P	N	N
Leader 459D	16	X	N	N	N	N	X	P	P	P	P	X	N	P	P	P	X	P	N	N	N
Leader 384	17	X	X	X	X	X	P	P	N	N	P	X	P	P	P	N	P	P	P	N	N
384	18	X	X	X	X	X	N	N	P	P	P	X	P	P	P	P	/	P	P	P	N
Aide	19	X	X	X	X	X	P	N	P	P	P	X	P	P*	N*	P	N	P*	P*	P	N
Team 4																					
459D	20	X	N	N	N	N	X	P	P	N	P	X	N	P	N	N	X	N	P	P	N
459D	21	X	P	P	P	P	X	P	P	P	P	X	P	P	P	P	X	P	P	P	N
Leader 459D	22	X	N	N	N	N	X	P	P	P	N	X	P	P	P	N	X	P	N	N	N
Leader 384	23	X	X	X	X	X	N	N	P	P	P	X	P	P	P	P	P	P	P	P	P
384	24	X	X	X	X	X	N	P	N	P	P	X	P	N	P	P	P	P	P	P	P
Aide	25	X	X	X	X	X	No entry	*	*	*	*	No entry	*	*	*		No entry	*	*	*	
Team 5																					
459D	26	X	P	P	P	P	X	P	P	P	P	X	P	P	P	P	X	P	N	P	P
459D	27	X	P	P	P	P	X	P	N	N	N	X	N	N	N	P	X	P	P	P	P
Leader 459D	28	X	P	P	P	P	X	P	N	P	N	X	N	P	P	P	X	P	N	N	P
Leader 384	29	X	X	X	X	X	P	P	N	P	P	X	N	P	N	N	P	P	P	N	P
384	30	X	X	X	X	X	P	P	P	N	N	X	P	N	N	N	P	P	N	N	N
Aide	31	X	X	X	X	X	P	P*	P	N	N	X	P	P	N	P	P	P*	P	P	P*
Totals	P		7	8	6	7	9	21	21	20	20		15	22	19	21	7	21	20	17	18
	N		8	7	9	8	5	9	9	10	10		15	8	10	9	5	9	10	13	12
MacGregor Votec 459D Instructor			P	N	P	N	N	N	P	N	N	X	P	P	P	P	P	P	P	X	P
Tinkham Votec 384 Instructor							P	P	P	P	P	X	P	P	P	N	N	P	P	P	N

Key to Table I

* = Good team days (as defined)   X = No class   / = Absent

[1] The designations 459D and 384 identify the participants in either the Votec 459D curriculum class or the Votec 384 teachers-in-training class.

Fourth Week					Fifth Week					Sixth Week					Evaluation Week					Total	Total
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F		
X	P	P	P	P	X	P	P	N	N	X	P	N	P	P	X	P	P	P		25P	5N
X	N	N	P	P	X	P	N	N	N	X	P	P	P	P	X	P	P	N		23P	8N
X	P	N	N	N	X	N	N	N	N	X	N	N	N	P	X	N	N	N		9P	22N
X	P	P	P	P	X	P	P	P	N	X	N	P	P	P	X	N	N	N		20P	7N
N	P	N	P	N	P	P	P	P	N	P	N	P	P	P	X	N	N	N		22P	10N
/	N	P	P	P	/	N	P	N	P	N	N	N	P	P	X	P	P	P		19P	10N
N	P	P	P*	P	N	N	N	P	P	N	N	P	N	N*	X	X	X	X		11P	18N
X	P	P	P	P	X	P	N	N	N	X	X	P	P	N	X	P	P	P		25P	5N
X	P	N	N	P	X	N	N	N	N	X	X	N	/	P	X	N	N	N		7P	22N
X	P	N	P	N	X	N	N	N	N	X	X	P	P	N	X	N	P	P		13P	17N
P	N	P	N	P	N	N	P	P	N	P	N	P	N	P	X	N	N	N		15P	17N
P	N	P	P	P	N	P	P	P	P	P	P	N	P	P	X	P	P	P		25P	7N
N	P	P	N	N	P	P	P	/	P	P	N	N	N	N	X	X	X	X		13P	15N
X	P	P	P	N	X	N	P	N	N	X	X	N	N	N	X	N	N	P		13P	17N
X	P	P	P	N	X	N	P	N	N	X	X	N	N	N	X	N	N	N		7P	23N
X	N	N	N	N	X	N	P	N	N	X	X	N	P	N	X	N	P	N		11P	19N
N	P	N	P	P	P	P	P	P	P	P	N	P	P	P	X	N	N	N		21P	11N
N	N	P	P	P	P	P	/	P	P	/	P	P	P	P	X	P	P	P		24P	5N
N	N	N	P*	P	N	P	P*	P	N	N	P	P	N	P	X	X	X	X		18P	11N
X	N	P	N	N	X	N	N	P	N	X	N	P	P	N	X	P	P	P		13P	18N
X	P	P	N	N	X	N	P	P	P	X	P	N	P	P	X	P	P	P		26P	5N
X	N	P	N	N	X	N	N	P	N	X	/	N	N	P	X	P	P	P		13P	17N
N	N	N	P	P	P	P	P	P	P	P	P	N	N	P	X	P	P	P		25P	7N
N	N	P	P	N	N	P	P	P	N	N	N	N	P	P	X	N	N	N		18P	14N
N	P	N	N	N	P	P	N	N*	P	P	P	N	N	P*	X	X	X	X		7P	8N
X	P	P	P	P	X	P	P	P	P	X	X	P	P	P	X	P	P	P		29P	1N
X	P	P	N	P	X	P	P	P	P	X	X	P	N	P	X	N	N	P		20P	10N
X	P	P	P	N	X	P	P	N	P	X	X	N	N	N	X	N	N	N		17P	13N
N	P	P	P	P	P	P	N	P	P	P	P	P	P	P	X	P	P	P		25P	7N
N	N	N	P	N	N	N	N	P	P	P	N	N	N	P	X	/	N	P		12P	19N
P	P*	P*	P*	P	P	N	P	P*	P*	P	P	P	N	P*	X	X	X	X		24P	5N
3 11	19 12	20 11	21 10	17 14	8 6	17 14	19 11	18 12	15 16	10 4	10 11	15 16	16 14	22 9		12 13	14 12	15 11			
P	P	P	P	P	P	P	P	N	P	P	P	P	P	P	P	P	P	P		29P	7N
N	P	P	P	P	P	P	P	P	P	P	N	P	P	P						24P	5N

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[2] "Leader" refers to the participant who was a member of both the 459D and the 384 classes, but who kept a diary for each.
No entry = Record missing or incomplete P = Positive N = Negative

remembered from the description for steps 1 and 2 in the diary analysis process, *each* diary had previously been judged on an individual day-to-day basis. As an example, the first week for Team 2 shows four good team days, each signified by an asterisk.

4. A chronology of selected comments by participants was constructed. The bulk of this segment of the report is composed of these comments. They were selected in the following manner:
   a. All value judgments that were particularly complimentary or non-complimentary will be found in the following chronology.
   b. Of the remaining entries, all absences, days upon which class did not meet, and "no comment" days were excluded.
   c. Each of the remaining entries was assigned a number. A simple random table was then applied to this group. The key number was changed from week to week. Once the random comments were selected they were added to the following chronology.

It is believed that this methodology will enable the reader to establish a frame of reference that will help him to obtain a broad, overall view of the participants' opinions about the project. At the same time this methodology will provide a more objective selection of specific comments.

5. A brief summary of the week-to-week situation was constructed and will be found in the following chronology.

For the week, if there were more "daily values" that were positive or negative, then the entire team was characterized in the same way. If the "daily values" roughly approximated a two-thirds majority, the team was characterized as being two-thirds positive or negative. If the response of the team was significantly more than two-thirds positive or negative, the team was characterized as being overwhelmingly positive or overwhelmingly negative in their outlook for the week.

If, for a specific day, there was only one (or none) negative response in the team, the day was characterized as being a "good team day." It is significant to note these "good team days" due to the fact that the past histories of the O. E. students, lack of lead time in planning the project, and the resultant confusion dictated that it would be virtually impossible for a team to view a single day from an exceptionally positive viewpoint.

Orientation Week

The members of the 459D class met for one week prior to the project start. These members were asked to keep records during this time and to aid in planning the actual project. Recorded comments for this period indicate that the majority of the 459D class members:

1. viewed the program with a high degree of optimism,

2. felt that the program objectives were very worthwhile,
3. felt that there would be considerable value to be derived from the program in relation to actual classroom application.

There were comments about the lack of organization and a unanimous expression of desire for more "lead time" in order to prepare for the O. E. students. These problems may have grown out of delays in funding and approval. Subsequent success indicated that these problems were not inherent in the program itself.

First Week

Team 1 (Two-thirds positive)

459D-Leader	"I got something valuable out of today's (Friday's) class."
384-Member	"Boys need a basic shop education."
384-Member	"Boys were hard to deal with."

Team 2 (Overwhelmingly positive—four good days)

459D-Member	"These boys deserve every opportunity."
459D-Leader	"I could have helped 10 to 15 boys if I could have heard Mr. Stratton talk a few years ago."
384-Leader	"Holding attention is difficult—the lecture is too long."

Team 3 (Positive)

384-Leader	"Boys seem to be working."
384-Member	"Two boys will be real problems."
	"Boys do not like 'in school' approach."

Team 4 (Overwhelmingly positive—four good days)

459-Member	"Some organization seems to be coming."
384-Leader	"Boys show a high interest."
384-Member	"Boys are working smoothly."

Team 5 (Two-thirds positive—one good day)

459D-Leader	"Projects are not planned far enough ahead of time."
384-Member	"O. E. students seem to be motivated are and making progress."

Summary of First Week Response

All things considered, the first week went quite well. Positive responses outnumbered negative responses two to one. Once the program began to move, the complaints of "poor organization" became less frequent. There was an overwhelmingly positive response to Mr. Stratton's talks before the 459D and 384 classes. The boys all finished their projects for the first week, and while there were some discipline problems, most of these were overcome as the week went on. The first week was hectic but seems to have gone quite well, as reflected by the fact that nine "good team days" were counted.

Second Week

Team 1 (Overwhelmingly positive—two good days)

459D-Member	"Video tape idea is very good."

459D-Member	"Impressed by Mrs. Bustard's talk."
384-Leader	"Mistakes by a student may well be due to the teacher."
384-Member	"Boys are doing well and were impressed by the field trip."

Team 2 (Negative)

459D-Member	"Entire program seems childish."
459D-Leader	"To aid the boys we must stress oral communication of ideas."
384-Leader	"Lessons from 459D class come too late to be helpful; we need more structure."
384-Member	"Discipline problems with one boy."

Team 3 (Overwhelmingly positive—two good days)

459D-Member	"Video tapes made this a rewarding morning."
459D-Leader	"Boys are coming along."
384-Member	"Some good progress."

Team 4 (Overwhelmingly positive—three good days)

459D-Member	"My mind is changing about the slow learner."
384-Leader	"Boys are very interested and highly motivated."

Team 5 (Positive)

459D-Member	"More discipline is needed."
459D-Leader	"Too many disruptions of class."
384-Member	"Some progress in the wood shop."

Summary of Second Week Responses

The most notable change was noted in Team 2. This team went from a very positive attitude (four good team days) to a decidedly negative viewpoint. There were some discipline problems for Team 2 during this week. However, the main reason for the change seems to be a mixture of boredom and the "shock of reality" that comes when one finally evaluates the situation he is in.

The second week had only seven good team days (a loss of two) and the positive response was not as overwhelming as in week one. One possible explanation for this is that week two saw the celebration of July 4th on Monday creating the problem of compressing five days' work into four days as well as dealing with increased problems of discipline due to the long weekend.

Third Week

Team 1 (Overwhelmingly positive—one good day)

459D-Member	"This type of class would drive me nuts."
459D-Leader	"This program will be very, very useful."
384-Member	"The boys are coming along very well."

Team 2 (Negative—one good day)

459D-Member	"The boys do not 'read' directions from the instructors."
459D-Leader	"Vocational goals of this program are too vague."
384-Leader	"Discipline problems seem to follow the weekend."
384-Member	"Payday is a good day, everyone is happy."

Team 3 (Positive—two good days)

459D-Member	"Where are we?"
459D-Member	"This is gripe day."
384-Leader	"Best day to date."

Team 4 (Overwhelmingly positive—three good days)

459D-Member	"Video tape was very impressive."
384-Leader	"Boys are very interested."
384-Member	"Good interaction with the boys."

Team 5 (Overwhelmingly positive—two good days)

459D-Leader	"Video tapes are a very valuable teaching aid."
384-Member	"Boys continue to show a mounting interest."

Summary of Third Week Responses

Team 2 continued as in the previous week and registered a negative viewpoint. One O. E. boy was isolated as a real discipline problem. It is quite possible that this boy was more than a small cause of disenchantment for members of Team 2.

The five teams picked up two more good days this week (from seven to nine) and the total response was still very positive. Some of the usual complaints came forth—especially "lack of organization" and "need for discipline." However, there was also high praise for the progress of the students and a very positive response to the talk by Mrs. Bustard. While some of the "gloss" had worn off by this third week—there was still evidence of a very positive attitude toward the entire program.

Fourth Week

Team 1 (Two-thirds positive—one good day)

459D-Member	"Mr. Jones' talk was excellent."
459D-Leader	"Boys are extremely interested."
384-Member	"Boys are coming along well."

Team 2 (Two-thirds positive)

459D-Leader	"Money should not be given to boys who do not earn it."
384-Member	"Best day to date."

Team 3 (Positive—one good day)

459D-Member	"A good day in class—I am very happy with the project."
384-Leader	"Too many interruptions in class."
384-Member	"The 384 leader is doing too much of the boys' work."

Team 4 (Negative)

459D-Member	"No discipline."
384-Leader	"Field trip was not related to the unit being studied."
384-Member	"Trouble with one boy but the rest were working well."

Team 5 (Overwhelmingly positive—three good days)

459D-Member	"The boys have a high level of interest."
459D-Leader	"Talk by Mr. Jones was excellent."
384-Leader	"Boys are making good progress."
384-Member	"Boys are highly enthused with the plastic project."

Summary of Fourth Week Responses

Team 2 reversed its trend and projected a positive attitude toward the program. It appears that a discipline problem was solved within this team and that the team moved on into the program with some better coordination.

Team 4 changed to a negative viewpoint and from the observations it is evident that increased discipline problems caused this shift.

Good team days fell from nine to five for this week, but there was little change in the two-thirds positive plurality. To this point one would have to conclude that there was still a positive attitude toward the entire program. There was overwhelming approval of Mr. Jones' talk.

Fifth Week

Team 1 (Negative)

459D-Member	"Home interviews do not seem to be a good idea."
384-Leader	"A good day, the boys are coming along, I am learning with them."
384-Member	"A rather disorganized affair."

Team 2 (Negative)

459D-Member	"Nothing to be gained from the home visit."
459D-Leader	"Lab aides seem to be immature."
384-Member	"The boys' interest level seems to have stabilized."

Team 3 (Positive—one good day)

459D-Member	"Class is a drag."
459D-Leader	"The lab aides have hurt the program in many areas."
384-Member	"Some progress."

Team 4 (Positive—one good day)

459D-Member	"This program would not work in a regular shop."
459D-Leader	"Video tapes show poor shop procedure."
384-Leader	"Boys are doing very well."
384-Member	"A good day—one boy has a better attitude."

Team 5 (Overwhelmingly positive—two good days)

459D-Member	"Video tapes are very good."
459D-Leader	"Team teaching is not as effective as one teacher and ten students."
384-Member	"Boys worked well—it was a good day."

Summary of Fifth Week Responses

Teams 1 and 2 moved into a negative attitude and good team days fell to four. Only one team had a "very positive" rating, and the remaining two teams were positive by majority. Discipline again seemed to be the big problem for these two teams.

It is reasonable to assume that the daily action and interaction of the program had taken its toll. Many seemed ill at ease and quite tense. The O. E. students increased their negative reaction to the program and their agitation was evident by the constant references to discipline problems.

To this point, one would have to agree that many involved in the program were a bit tired. The positive attitude was now glossed over by the things that had risen to irritate and generate anger.

On the whole, the total response was positive *only by majority.*

Sixth Week

Team 1 (Positive—one good day)

459D-Member	"Boys have come a long way."
384-Leader	"A very good day—I hope to accomplish something in my school."
384-Member	"Not enough for the boys to do."

Team 2 (Positive)

459D-Member	"Some boys have been helped by this program."
459D-Leader	"Not as much achievement or success as was hoped for."
384-Member	"I have positive feelings about my experiences from this program."

Team 3 (Positive)

459D-Member	"A lot of horseplay and confusion."
459D-Leader	"Today was a wonderful day."
384-Member	"Our time this summer has been well spent."

Team 4 (Positive—one good day)

459D-Member	"Things are running smoothly."
459D-Leader	"Program is good but it should be given to younger boys."
384-Leader	"No serious attempt has been made to get to real problems of these boys."
384-Member	"Boys were unhappy that the program was ending—I would take a course like this one again."

Team 5 (Two-thirds positive—one good day)

459D-Member	"I am impressed by the boys' attitudes on the last day."
459D-Leader	"Boys were busy and interested right to the end."
384-Member	"Last day was a good one."

Summary of Sixth Week Responses

All teams showed positive attitudes for the last week even though there were fewer (3) good team days in this week—when compared to all six weeks. The good team day trend is evident (9, 7, 9, 5, 4, 3) and reflects increasing fatigue within the program as time went on.

Evaluation Week

In the last week, most people indicated that the program had value and that it was worthwhile. The O. E. students indicated that they were sorry that the program was over and there were indications of genuine rapport between the O. E. students and the project personnel on the last day.

THE LABORATORY AIDES

Each of the five teams was assigned a laboratory aide who was requested to keep a record similar to that requested from the members of the 459D and 384 classes. Since the lab. aides were juniors and seniors in high school there was a considerable difference between the quality and consistency of their records and what the program objectives called for. Some of the comments that the lab. aides made are below.

First Week
"Boring, very disorganized."
"Project should be fun."
"It went ok."

Second Week
"Much trouble with one boy."
"I had a fight with one boy."
"A good day."

Third Week
"One boy hit me with a wire—he wants a fight."
"Boys play around too much."
"The boys were very good."

Fourth Week
"I feel like a highly paid baby sitter."
"A good day."
"My team leader is dumb."

Fifth Week
"Things going good."
"More rules made—more order."
"A bad day."

Sixth Week
"Today everything went wrong."
"I am tired of work—the project is dragging."
"Today was a very good day—the best day."

THE O. E. STUDENTS

During the first week of the program, the O. E. students were shown how to make a simple but interesting project. This involved a driven propeller that could be manipulated to reverse the direction of its spin at the will of the holder.

At the end of the first week the O. E. students were asked two specific questions: (1) Where is your project? and (2) Did it work? With respect to these questions just about one-half of the boys took their project home and less than one-half of the boys replied that their project had worked.

At the end of the second week, the O. E. students were asked four questions: (1) How do you like your morning job? (2) What do you think of lunch? (3) How do you like the shop? (4) How do you feel about your first paycheck? Most of the boys voiced a positive reaction to the morning jobs, the lunches, and the afternoon sessions in the shop. All boys were happy with their first paychecks, and most felt that they had earned them.

At the end of the third week, the O. E. students were asked the same first three questions of the preceding week. Out of 75 possible answers to questions dealing with satisfaction with the morning job, lunch, and the shop program, only five negative responses came out. The boys appear to have enjoyed the program through the third week.

At the end of the fourth week, the O. E. students were again asked the same three key questions. However, added to these was: (4) What did you do with your last paycheck? Five boys were absent on the day (Friday) the survey was taken. There were only six negative responses to the usual questions about lunch, morning job, and the afternoon in the shop. This is only 10 percent of the 57 possible responses.

Questioned about the disposition of their pay, only three of nineteen boys claimed to have saved it. The rest spent it or made no comment. In general, the boys seemed to be happy and appeared to have adjusted to the demands of the program quite well. It was evident that the boys really enjoyed the shop program with virtually no negative reactions to the afternoon proceedings.

At the end of the fifth week, the O. E. students were asked the same four questions as the week before, plus a fifth question: (5) What will you do with this paycheck? More negative responses came out in the answers given by the boys. This seemed to reflect boredom with the morning jobs, boredom with the food, and some tightening of discipline in the shop area. Out of 63 possible answers to satisfaction with these aspects of the project, ten negative responses were given.

Of 21 boys questioned, only four had saved the last paycheck and intended to save the current one. Twelve boys had spent the last one—only three of these boys intended to save the most recent check. Most of the remaining boys seemed to have spent the money on something "worthwhile"—and had something tangible and useful to show for it. Only four boys related that they had nothing to show for their last paycheck.

At the end of the sixth and last week, the boys were asked the same first three key questions that had been asked each week. Added to these questions was the query: How do you feel about the project now that it is ending? Out of 60 possible responses, the boys gave a negative reaction in thirteen instances. Four boys were absent. When questioned about their feelings toward the project on the last day, seven of the boys replied negatively. This

Table II

ANALYSIS OF O. E. WEEKLY QUESTIONNAIRES

	First Week		Second Week				Third Week		
	Where Is Your Project	Did It Work	AM	Lunch	Shop	Pay	AM	Lunch	Shop
1. AA	P	P	P	P	P		P	P	P
2. B	P	P	N	P	P	P	P	P	P
3. CC	P	N	P	P	P	P	P	P	P
4. D	P	P	P	N	P	P	X	X	X
5. E	P	P	P	P	P	P	P	P	P
6. FF	P	N	P	P	P	P	P	P	P
7. GG	N	N	P	P	P	P	P	P	P
8. H	N	P	P	P	P	P	P	P	P
9. I	N	N	X	X	X	X	P	P	P
10. JJ	P	P	P	P	P	P	P	P	P
11. K	P	N	P	P	P	P	P	P	P
12. LL	P	P	N	P	P	P	N	P	P
13. MM	N	N	P	P	P	P	N	P	P
14. N	N	N	X	X	X	X	N	P	P
15. O	N	N	P	P	P	P	P	P	P
16. PP	N	N	N	P	P	P	P	P	P
17. Q	P	P	P	N	P	P	P	P	P
18. R	N	N	P	N	P	P	P	P	P
19. S	P	N	P	P	P	P	P	P	N
20. T	N	N	P	P	P	P	P	P	P
21. U	N	N	P	N	N	P	P	N	P
22. V	P	P	P	P	P	P	X	X	X
23. W	P	P	P	P	N	P	X	X	X
24. XX	N	N	P	P	P	P	P	P	P
Totals	13P 11N	10P 14N	19P 3N 2X	18P 4N 2X	20P 2N 2X	22P 2X	18P 3N 3X	20P 1N 3X	20P 1N 3X

Key

X ‒ Absent on day of survey S = Spent SA = Saved

was 35 percent of all boys, leaving 65 percent favoring the program and sorry to see it end. One boy who did his utmost to disrupt the class during the program was quite sorry to see it end.

ATTITUDE CATEGORIES

Daily records—projecting positive and/or negative response to the program activity—have been of immeasurable value to a final analysis. Through a compilation of each individual's record and a cross-check of that record with the records of the teams and a further comparison of all teams, it is possible to evaluate each day's progress.

As noted above, it is quite possible to detect trends in attitude and to extricate comments about the program that otherwise would have been lost or passed over. It is further possible to undertake a broad, overall

Table II (Continued)

Fourth Week				Fifth Week				Sixth Week			
AM	Lunch	Shop	Pay	AM	Lunch	Shop	Pay	AM	Lunch	Shop	Opinion
P	P	P	S	P	P	P	S/S	P	P	P	N
N	P	P	SA	N	P	P	SA/SA	N	P	P	P
P	N	N	S	N	N	N	S/S	N	N	N	N
P	N	P	SA	X	X	X	X	X	X	X	X
P	P	P	SA	P	P	P	SA/SA	P	N	P	N
X	X	X	X	P	P	P	S/S	P	P	P	N
P	P	P	S	P	P	P	S/S	X	X	X	X
P	P	P	S	X	X	X	X	P	N	P	N
X	X	X	X	X	X	X	X	X	X	X	X
P	P	P	S	P	P	P	S/S	P	P	P	P
P	P	P	NC	P	P	P	S/SA	X	X	X	X
P	P	P	NC	N	P	P	S/SA	N	P	P	P
P	P	P	NC	P	P	P	S/S	P	P	P	P
P	P	P	S	N	N	P	S/S	P	N	P	P
P	P	P	NC	P	P	P	SA/SA	P	P	P	P
P	P	P	NC	P	P	P	S/SA	P	P	P	P
X	X	X	X	P	N	P	S/SA	P	P	P	P
P	P	P	NC	P	P	P	SA/SA	P	P	P	P
X	X	X	X	P	P	N	S/S	P	P	P	P
P	P	P	NC	P	P	P	SA/SA	P	P	P	P
P	N	N	NC	P	N	P	S/SA	N	N	P	N
X	X	X	X	P	P	P	S/S	P	P	P	P
P	P	P	NC	P	P	N	S/S	N	P	N	P
P	P	P	NC	P	P	P	S/S	N	P	P	N
18P 1N 5X	16P 3N 5X	17P 2N 5X	6S 3SA 5X 10NC	17P 4N 3X	17P 4N 3X	18P 3N 3X	11S/S 5SA/SA 3X 5S/SA	14P 6N 4X	15P 5N 4X	18P 2N 4X	13P 7N 4X

NC = No comment P = Positive N = Negative

analysis of each individual's efforts and contributions in behalf of the program. Upon compilation of the total number of positive and negative responses, it is possible to give a rating to most of the individuals in the 459D class and 384 class as well as to the five laboratory aides.

There were fifteen "positive" attitudes reflected by the data, and of these individuals two were lab. aides, six were members of the 384 class, and seven were in the 459D class. Only in Team 1 did the project leader give a positive response to both the 459D and 384 class activities. Leaders of Teams 3, 4, and 5 split their evaluations, one leader being negative to the 459D class and positive to the 384 class and the other two leaders being positive to the 384 class but reassurably undecided in evaluation of the 459D class. The remaining team leader was undecided about his feelings in relation to both classes.

There were seven negative responses to the program with two members of this group being lab. aides, four being members of the 459D class (including one team leader mentioned above) and only one negative response to the 384 class. The nine remaining (out of a population of thirty-one) people had undecided responses. "Undecided" meant that their total responses did not equal more than one class week of observations to the positive or negative point of view. Five of these people were in the 384 class (one being the team leader referred to above as being undecided for both classes) and one lab. aide.

Team 1 had four overwhelmingly positive responses (26-5, 23-8, 20-7, 22-10).

Team 2 had two overwhelmingly positive responses (25-5, 25-7).

Team 3 had two overwhelmingly positive responses (21-11, 24-5).

Team 4 had two overwhelmingly positive responses (26-5, 27-5).

Team 5 had four overwhelmingly positive responses (32-1, 20-10, 24-5, 25-7).

It is important to note that the differences in totals are due to the irregularities of the class schedules (459D did not meet on Monday), and absences, as well as records with "no comment" for the day in question.

There were only four overwhelmingly negative responses, with no team having more than one member in this category (9-22, 7-22, 7-23, 7-22).

Upon examination of the data, it is reasonable to conclude that two-thirds of the participants viewed the project with an overwhelmingly positive attitude. An examination of their records showed that the most frequent complaints dealt with weak organization, some maintenance of machinery problems, and discipline problems.

The organizational problem has been commented upon. It is sufficient to state that better maintenance could be achieved in another program of this type. The complete solution to the discipline problem is yet to be found.

COMMENTARY

After analysis and evaluation, it is evident that the daily records have proven themselves to be quite useful, inasmuch as they include comments that the members of the 459D and 384 classes would probably not have made to the project administrators. There are many constructive comments to be drawn upon in the preparation of a continuance of this type of program. It is evident that any disruption had its effects and that these effects came in multiples—often coming out in all records for a team or teams.

The records were also valuable for gaining insight, for giving a broad overall view of the entire program, and for analyzing the daily actions and interactions of the people involved. These records also provide a more than adequate check or "control" on the evaluation of the individuals involved.

They supplement the evaluations of the project administrators as well as the final exit interviews.

With respect to the O. E. students, it is sufficient to state that the daily records provided insight into their actions and antics. Problems of aggression and withdrawal were pinpointed. Some of the above comments indicate this in a manner that lends a great deal of credibility. All things considered, it is quite reasonable to state that a final analysis of the relative and absolute merits of this program would have been impossible without consideration of these records.

SAMPLE DIARY

One complete diary is reproduced here. This will enable the reader to better comprehend the raw data the research members dealt with.

The diary selected was kept by one of the five students who were team leaders by virtue of being enrolled in both Votec 459D, the graduate curriculum class, and Votec 384, the teacher-in-training shop class. It was felt that the reader might gain a clearer comprehension of the total summer sequence by reading a single double-entry diary which reported on both classes instead of two separate diaries written by different individuals.

This diary was written by a person who had almost an equal number of "positive" and "negative" rated days. The other team leaders had many *more* "positive" than "negative" rated days. Thus the reader should keep in mind that the diary presented represents more "negative" rated days than other team leaders. As with almost all the diaries, this one represents a very frank and honest appraisal by the individual.

At times, some of the feelings of this individual did not coincide with the feelings expressed by most of the other team leaders. An example was his belief that the students were bothered by the TV cameras and performed for the camera. Since the opinions expressed by the O. E. students many times contradicted the feelings expressed in the team leader's diary, it is suggested that the reader draw his own conclusions after viewing the kinescopes.

It should also be remembered that these diaries were written after a hard day's work with the O. E. students and offered an excellent chance to relieve hostility.

SAMPLE DIARY FROM A VOTEC 384 TEACHER IN TRAINING WHO WAS ALSO A MEMBER OF THE VOTEC 459D GRADUATE CURRICULM CLASS

459D. Friday, June 24, 1966. Course is starting to become quite congested and involved. Does not appear to be well organized for a pilot study. In many cases the class is informed of some new aspect or requirement in what appears to be an afterthought.

It would seem that instead of having each team work on the same curriculum area in their own way, it would be better to have teams concentrate on one aspect of a subject or one subject and rotate the students around through each team.

As I understand now from what has been told us so far, we as a team will probably not be able to go into any worthwhile depth in these subject areas.

The curriculum teams have wasted too much time with trivia in the beginning of the course while the time when the needed curriculum materials are necessary loom so close that I feel stifled by what I feel I should do but do not have time for.

It would seem that additional time is desirable before the needed curriculum materials are to be used. Three days over a weekend at which time none of my team members can meet is not enough.

384. Friday, June 24, 1966. Seem to be standing still here. Discussion about possible projects or products that could be used to teach O. E. students. O. E. students are coming Monday. We seem to be expected to be here Mondays also. I wouldn't mind if it had been scheduled that way.

I feel like I'm going in with my eyes shut. I don't see how we can be ready to go by Tuesday. Both course 459D and 384 need to meet together to organize.

384. Monday, June 27, 1966. Tempo of room was high. During video session and later while Dr. Tinkham was talking, student attention was not maintained. When the speaker would ask for the students' attention, he would begin talking before he actually had their attention. This resulted in still greater confusion. Most students were way behind in filling out their forms because of this, and as a result many questions were left unanswered.

We were not strict enough today in maintaining their attention even for short periods of time.

I am at a loss as to where to go next. Several students of my group are quite slow, the others quite fast. Everything still seems to be a hodge-podge.

459D. Tuesday, June 28, 1966. Discussed the goal of vocational intent of course content for these O. E. students, however slight it might be.

We also mentioned the student's need to succeed on small tasks. He has been faced with repeated failure in the past. He must begin to feel some accomplishment.

384. Tuesday, June 28, 1966. Class was much smoother today. I feel one big reason for this was a U-shaped sitting arrangement rather than rows.

They became restless during the last hour. They spent most of the day in their seats. Tomorrow they will be in the lab.

Three boys still seem to be showing off. They are still seeking extra attention. I feel these boys should be singled out and told that it makes no difference how they act at home, on the street, or with their buddies, but that they simply do not mouth off and show off in this summer situation.

459D. Wednesday, June 29, 1966. We began discussing the effects of home environment and social class on youth. Things considered were motivation, delayed and immediate gratification, values.

Parents of low socio-economic group generally are concerned for a better life for their children but they just aren't able to provide the proper environment.

Tomorrow Mr. Ken Stratton will talk with us. He is very well prepared for his responsibilities.

I would like to be able to observe Mr. Stratton in a class situation such as the O. E. students we are working with.

I would like to have access to a teaching machine.

384. Wednesday, June 29, 1966. The first hour of class was used to finish up a drafting problem and a measuring problem. They remained more attentive than I thought they would.

An outside assignment to be returned today was completed by only 2 of 24 O. E. students.

After a break the students assembled in teams. Trying to hold student attention while other students were working and machines running was almost impossible. Found it difficult to get any response from students on questions that were to get them involved in the problem (lamination of wood).

A power machine we planned to use was being used by another group so that another machine had to be substituted. Some problems of set-up of the machine occured. Subject H was interested in helping to solve the problem. The others were only mildly interested with one boy, Subject I, the least interested. Seemed bored until the machine was running again, at which time Subject I cooperated in helping another student to cut form.

Two boys were concerned with taking a smoke break. I refused until there was a lull due to a change of blades on a machine. I then let them go one at a time.

I do not feel that I covered everything I wanted to at the beginning of the lesson. But had to move fast to hold attention.

459D. Thursday, June 30, 1966. A very stimulating class session today. If I could have talked to Ken Stratton several years ago there would have been 8 or 10 students I would have understood better and maybe could have helped more. Ken talked about areas and situations in which I saw myself.

Some points on curriculum were discussed but it was indicated that many lower social economic class people see little dignity in being in the labor class and therefore are not motivated to take or to perform in this kind of school environment. Many Negroes feel that dignity comes from white collar jobs only because a blue collar job will not get them from the ghetto.

There seems to be a vast area of values in different classes that needs to be mapped.

The class today repeatedly returned to the discussion of class values. This whole scheme of education is actually through the eyes of the middle class. Our values are different and we feel respect and dignity in different ways also.

A big factor in values seems to be dignity. No matter which class the student is rebelling against, he seems to have lost his dignity there, and therefore seeks dignity with his peers who in some cases may be from other class levels.

It would seem that possibly only minor changes in curriculum are necessary for industrial arts education, but a large change in our approach and attitude toward our students is called for.

From my reading, however, I feel changes in the language curriculum are urgent.

384. Thursday, June 30, 1966. Things went smoothly today. There seem to be no discipline problems. The boys seem to be sincere in their efforts. Attitude seems good in most cases.

We reached a stage of progress today in which there was little to do until the glue could set. Three of the five students expressed interest in other wood projects which involved other processes. These students were encouraged in their problems and they began working. However, Subject FF and Subject I could not make a decision in any particular direction. They would express interest in one area and then move to another. Unable to decide. They are involved in a project but show no enthusiasm. They are not motivated—show no interest. Seem uneasy in the lab as if lost. I am not aware of any failures in the activities introduced so far, however they may feel they have failed to themselves or their peers or both.

One student expressed a desire to make a pool que. I inquired what desirable qualities were needed, etc. Mr. .... (Teacher in training, teammate) mentioned this project to Dr. Tinkham. Dr. Tinkham apparently disapproved of such a project. I disagree—however I have not talked directly to him about the matter.

459D. Friday, July 1, 1966. Communication is somewhat of a problem still. Coordination processes are being worked out as the problems are brought to light.

Today we established a format for lesson plans to help provide consistency in the study.

At this time I have read the cumulative folder of only one of my students, Subject FF.

Teaching machines are not here yet.

A microfische machine is now available.

I informed my other team members of our intentions to move into one of four areas with the students approximately next Wednesday. This will give them time to work up lesson guides. I plan to ask students which one of 3 or 4 areas they would prefer moving into next.

384. Friday, July 1, 1966. Today all students finished their lamination projects. Subject I became very discouraged today with his lamination project. In the process of shaping an article he cut too far. In his frustration he threw the article in the scrap box. He sat down and began listening to a portable radio. It did not work and he was probing inside.

I expressed an interest and he showed me that by moving some parts in the radio it would make noise. Upon examination we found a loose connection and a short. Subject I resoldered the joint, fixed the short, and the radio worked again. He displayed no particular enthusiasm. Later I asked him where his lamination project was. I told him I wanted him to finish the project no matter what he did with it afterward. He did finish project—looks good—also used spray gun to apply finish.

459D. Tuesday, July 5, 1966. Diary should give an account of each student each day.

It might be desirable to develop a curriculum for an individual student.

In the oral reporting, stress was placed on appealing to student as a person. Also, that dropout-prone youths have probably received this attitude from parents. Students will in turn pass it on to their children.

384. Tuesday, July 5, 1966. Subject FF. Still very unconcerned. Must be asked several times in order to get him to act. Has shown very little interest—expresses no interest. He did not participate today until an engine was started. He was then at the engine constantly—seemed to like racing the engine to hear it bang as it backed off.

Not sure how long interest will be maintained, especially with engine disassembly.

Subject GG. Finished a wood lathe project today. Showed a good interest in the engine. Generally cooperative.

Subject JJ. Began applying finish to a second wood lamination project of his own design. He was going to bring in an engine today—he did not. Said he would bring it tomorrow. Quiet and cooperative.

Subject I. Displayed little interest today. In his own little world. In some ways he seems to be willing to cooperate but can't somehow let himself go. Will not commit himself. Brought in his radio today—still seems to work well. He mentioned something today about buying a car of his own. Is supposed to obtain it in a few days. At times very obstinate today during a short explanation period about some functions of engine parts. His attitude also seemed to rub off on Subject H.

Subject H. Much more rebellious today than usual. Very difficult to obtain his attention. Expressed desire not to finish a wood project he has started. Must be with him constantly for him to become involved and participate.

As a whole, the group seems to be listless and restless. Do not seem to want to become involved in anything. It seems we are talking above their heads or they groan "we had this before." Very discouraging.

459D. Wednesday, July 6, 1966. Mrs. Bustard talked today. Very critical of what language is doing for many students in our schools today. I felt relieved that they are not all so involved with the classics and trivia which has no real meaning or value to most students.

She seemed to feel that we are responsible to get students to read. This includes all subjects. It's the job of the English department to prepare them to read. Reading, writing, speaking, and listening are skills which must be practiced.

384. Wednesday, July 6, 1966. Subject FF. Maintained a high interest level all period today. He successfully ran, disassembled, looked at, assembled, and ran a one-cylinder engine today. Couldn't keep his hands off engine after it began running.

Was able to maintain his interest during short explanations of the purpose of major components of engine. He seemed to try to understand, but I don't think he comprehended many things covered—he had to abstract to understand and this is difficult for him.

Subject GG. At first a little reluctant. Engine didn't seem to want to run at first. Did not want to commit himself. It then sputtered and showed some signs of life. He became completely involved in engine then. Was successful in running, disassembly, inspection assembly, and final running of the engine. Interest very high.

Subject JJ. He brought in an engine of his own today. Seemed to be a little more experienced around engines than the others. Successfully ran, disassembled, inspected, assembled, and ran his engine.

Subject I. Absent.

Subject H. Absent.

The three boys present seemed very motivated to "tinker" with the engines. Were not even concerned with taking a break. They just wanted to run those engines.

They also seemed more interested in short explanations of parts, although no attempt was made at theory. Tried to keep terminology very basic and realistic.

Engines were dismantled only far enough that they could see internal working parts. They could observe how parts moved inside the engine.

More seemed to be accomplished today than any others.

Dr. Tinkham is having greater success and positive student response in his opening class remarks each day. Attention span seems to have adjusted to this period of time.

459D. Thursday, July 7, 1966. Viewed video playback of some lab activity. Several things seemed important in the films. One would be to let the student do as much as possible of his own work. Only offer help or suggestions if he is in personal danger (or someone else) or if he might damage or ruin his product or the equipment.

Another point might be to get the student to talk as much as possible. Try to get him to verbalize. Ask him many simple questions. This might force him to think more of what he is actually doing and also help him gain self-confidence.

384. Thursday, July 7, 1966. Subject FF. Showed little reaction to movie about engines. Little response during discussion of film and his performance the previous day on the engine. However, he expressed desire to run engine again so I let him.

Subject GG. Acted very tired today. Displayed no interest in film and did not participate in discussion. Afterward he wanted to make another laminated utensil so I let him.

Subject JJ. Some interest in film. Little participation in discussion session. Afterward made final attempts to set carburator with reasonable success.

Subject I. Viewed films and did participate in his own way in discussion session. Fairly interested. Since he missed previous day he wanted to begin to work on engine today. He then began disassembly of an engine. Cooperative—except for wanting to make a club to take home. Seemed obsessed with making or taking something along home for fighting.

Subject H. Viewed films and participated in discussion session. Afterward Mr. .... (teacher in training, teammate) took him to begin his case study; they were gone the rest of the day. This could be one reason Subject I was more cooperative today—they were split up. Subject H was also involved in attempts to take something home that could be used as a weapon. I made him cut up a club and told him that those items were not made here.

I feel discouraged today. The lessons from the 459D group are not for an appropriate area, arrive late, simply are not used, or last only a short period of time. As a result I have been improvising in order to get by. I do not feel that my students are as involved as they could be. They have no set, short-range goals. In some cases I have been letting them pursue an interest area which tends to remove them from the group.

I am afraid that their experience has not had enough structure; however, I do feel that I should be student-oriented rather than subject-oriented. If this is the case, the lesson plans may have to be used on individuals instead of the group. Many of these I will probably have to make out myself.

459D. Friday, July 8, 1966. Somehow I feel that trying to force all five students into one experience after another for the sake of changing or for the sake of developing a stack of unique lesson plans is not the right approach.

I am beginning to feel that if a student wants to spend the rest of the class doing one small task—and do it successfully—that he would be better off.

If during the completion of the student's particular task he needs to operate a particular machine or sand and finish a piece of wood, then is the time for this student to learn—not according to some irrelevant schedule.

384. Friday, July 8, 1966. Subject FF. Still wanders with no direction or motivation. Takes interest in nothing, at least so far. Takes him a very long time to complete simple tasks. He completed several small tasks for me today—took most of the day.

Subject GG. Seems to be losing interest. Remains busy and active only because we keep after him. Displayed little self motivation.

Subject JJ. Has shown much interest in a Van DeGraff generator. Very interested in how it works and what it does. He seems to understand that it uses friction to produce an electric charge. The belt is in poor condition and finally broke. He seemed to have only a vague idea of how it could be repaired or replaced. Started case study.

Subject I. Really became involved in engine disassembly today. Very cooperative. Had some difficulty with some parts. Could not remove them.

Subject H. Also highly motivated about engine. Reasonable success. Could not follow closely—involved in case study with Subject JJ.

Fairly good day. Had to reinterpret most questions on case study form. Was almost time to stop before Subject JJ began to loosen up.

384. Monday, July 11, 1966. Subject FF. Is still very unconcerned about accomplishing anything. Today he was shown how to use an automatic metal forming machine. He did form a piece of copper sheet on the machine. Still very unconcerned.

Subject GG. Seemed tired today. Very unmotivated. Sat around until asked to do something. He came up with a very pleasing shape for a dish on the metal forming machine. Still has shown no interest of his own—only follows directions.

Subject JJ. Showed the group a small D.C. powered transformer (thriller). Right away he wanted to make one. He wound wire around a metal core, to make a transformer, and discovered he had also made an electro-magnet. He seemed quite surprised. He took no break today.

Subject I. Same as usual. He did not want to return to engine until a broken part comes in on order. Wanted to make some guns of wood. Refused. Finally decided to try the forming machine. Showed no real interest here.

Subject H. Quiet today. Somewhat rebellious, but quiet. Also formed sheet copper on forming machine. Still has shown no real interest.

At the end of the class today, in the seminar, we talked of withholding a day's pay for inactivity on the students' part. The whole group will be told about this situation. We may have to use it on Subject FF and Subject I.

459D. Tuesday, July 12, 1966. Talked about the possibility of music during lab sessions. I would like to try it.

It was also suggested that the projects being used now only indirectly relate to a future vocation. We might need a more direct approach. One suggestion was the service occupations: painting, repairs on many items such as refrigerators, appliances, etc., and operators of equipment.

We seem to need a more direct vocational goal in our lesson guides.

384. Tuesday, July 12, 1966. Subject FF. Had a successful experience in attaching legs to a tray today. The tray was formed yesterday on an automatic forming machine. He seemed to be interested in what he was doing.

He also tried to make some wooden objects with which he intended to repair a go-cart. When asked what he was making and how it was to be used on the cart, he was unable to explain his problem to me. I continued asking him questions, but he was unable to make himself any clearer. I then asked him if he could show me by sketching on a piece of paper. His sketch of the whole go-cart was fairly accurate, but he was unable to show the particular area of the cart on which he was having trouble.

I did not tell him not to use the wood for repairs, but I did mention that a more durable material might be necessary.

He may bring in the cart.

Subject GG. He also attached legs to formed tray or dish. Buffed and cleaned it and applied a protective lacquer coating with a spray gun.

He also completed an earlier wood project. Little contact today.

Subject JJ. Still very interested in electric thriller. He did have some frustrations today. But his interest still remains high. He is at a point now that he wants to try different things to make it shock harder. How far we can go and how much he will learn I do not know. He took no break today.

Subject I. Absent.

Subject H. Very moody—a pronounced defeated attitude. He elected to sit and not use most of the day today. He was asked to finish existing activities in which he was involved but was not told to do so—I felt he would have to decide.

He did show some interest in a puzzle that another teacher had. He was able to solve it.

Otherwise, to my knowledge, unactive except for a smoke break.

His pay was docked today.

I somehow feel that using the more individual approach that we (our small group) are using poses large problems in relating what you are telling the student to a vocational frame of reference. Many times the student and I move into some new facet of a problem with which I am familiar but not well organized in my off-the-head presentation. As a result many important points may be omitted and not realized until it is too late for effective use. I also find that when students face problems they have solutions for, they may take us into this type of situation described above and there is no previously prepared lesson guide. It takes about two days to communicate a need for lesson guides and to receive them. They are needed at a moment's notice and there is no previous warning of their need in most cases.

I only know part of the story about Subject I and his absence today. His absence or the reason for his absence or both may have been what was troubling Subject H. In one case, Subject H defended Subject I while in peer conversation.

I am finding difficulty maintaining interest in lab without "the making of something." These students seem to need to make something—do not see value in just learning to use a tool or machine merely to learn all of the possible operations it would perform. I feel I am putting too much emphasis on "making something."

459D. Wednesday, July 13, 1966. Discussed the utilization of field trips. Would like to take several.

Our team organization is poor—have been able to meet as a group only for a matter of minutes on several occasions. We have never been able to meet as a group for any worthwhile length of time. The role of my group members in this study is minor.

384. Wednesday, July 13, 1966. Subject FF. Fell asleep during a movie about foundry today. Had a long talk with him about his go-cart today. He has very little knowledge of how it works or goes together (that he is able to communicate to me). He wants to make spinners for it. Had no idea of the purpose of spinners or how they would be attached or how they could be made. I tried to get him to think about these problems by asking him questions which I felt would force him to think about his cart and maybe cause him to take a good look at it. Physically he accomplished very little today.

Subject GG. He is very negative to the foundry. He says he has already done it and doesn't want to work in it anymore.

Another team brought in an engine for a mini-bike they are building. The engine needs a fuel tank and needs some adjustment in order to run. Subject GG is troubleshooting it. He wants to get it running.

This area seems to be the only one so far in which he shows self-motivation.

Subject JJ. Showed interest in film only I think we passed his attention span. Film ran about 20 minutes. Was not overly interesting. He is also interested in the engine Subject GG is working on. Also mentioned making a cabinet for an amplifier.

Displayed little interest in his thriller today. It did work but it did not put out as much as he wanted. He is not particularly interested in trying to modify to improve its output. I don't feel that he had enough success with thriller for the time he spent to warrant modification.

Subject I. Absent today.

Subject H. I didn't think he would show up today without Subject I. Still very apathetic toward activity unless asked to do something specific that does not involve him in the process of completing something he has already started (project). He will perform small tasks for me but not for his own projects.

Tomorrow I am going to attempt to schedule a field trip to the airport. They have a maintenance area I think might interest the students. This might be an area of vocational interest to the students which they haven't considered.

459D. Thursday, July 14, 1966. I am beginning to feel like a full-fledged welfare worker. I do not like the idea of going into these students' homes to begin with. I certainly was not aware of this before I elected to take both courses. Now, today we are told that we need to use a similar questioning format so are given two pages of questions to ask parents. The whole intention of the questions is to be able to compare results BUT that means the questions must be presented with similar meaning to each set of parents. As the questions are stated, these parents will not be able to understand these questions. If we reinterpret the questions for the parents, we lose the value of a duplicate format between parents. Therefore, why have such a highly structured format to begin with. The results will be so late in coming they will prove of little value anyway, to us who need it now. I feel like I am trying to psychoanalyze the parents. I feel this information would be desirable but I am certainly not qualified to delve into these parents' personal lives and actions. If I were the parent, I would throw the guy out of the house.

384. Thursday, July 14, 1966. Subject FF. Became very interested in the foundry today. At first he was unable to make a decision as to what to produce. He wanted to make a part for his go-cart but just couldn't manage to come up with an idea that satisfied him. He finally wound up copying another student. I really doubt if he is capable of making this type of decision. He functions much better when he is told what to do. His first mold attempt did not completely fill up. He will try again tomorrow I think.

Subject GG. Uncooperative today. We just did not seem to click today. Refuses completely attempts to get him involved in the foundry area. Spent some time on engine problem. After some time he apparently met some frustration and left engine to sand on his last remaining wood project.

I feel he should lose some pay and his bonus today.

Subject JJ. Spent whole day involved with foundry project. Was successful. He seems to be able to generate an interest in most areas. Seems to have an open and receptive mind as compared to the other group members.

Subject I. Absent today.

Subject H. No rapport with him today. Seems to be unable to decide on any activity—may be on purpose. Seems to enjoy eluding activity. I don't think he really believes his pay will be cut for his inactivity.

I feel he should lose some pay and his bonus today.

Did spend some time making styrofoam horseshoe patterns to be cast tomorrow.

Not sure why but I seem to be having more and more problems with Subject GG and Subject H. May be attitudes or personality conflicts.

I feel very discouraged today. Nothing went well. I do not feel that we should be responsible for gathering data on the home visit either.

384. Friday, July 15, 1966. Subject FF. He ran through the foundry again today and poured a successful casting. He seemed to have a good day.

Became interested in an end-milling operation. He made a few cuts and got a chance to turn some handles and seemed satisfied.

Subject GG. Spent the day on the small engine. Certain parts of the engine he has had trouble with. The recoil starter mainly. It doesn't recoil. He is frustrated by it but will not tackle it as a problem. Continues to use it and rewinds it by hand. The engine shows only minor signs of life, and I asked him if the engine was smarter than he was. He said no, and kept on working on the engine. I still have not been able to convince him that he must understand more about the engine in order to service it properly. This is my main goal—that he gain some insight into the workings of an internal combustion engine.

Subject JJ. He rammed three styrofoam patterns and cast them at the beginning of the period. Only one was good. The good one I wanted to machine some of its surfaces. All of the boys became very interested in the end-milling operation and three wanted a turn at making a cut. Subject JJ was the only one to keep on pursuing the machine. So I showed him what I wanted done and let him proceed on his own to finish machining the casting. He really seemed fascinated by what he was doing. I had not planned on this activity. But while it generated interest I proceeded to encourage it and thus expose them to another experience.

Subject I. Absent today.

Subject H. Drifted around today as usual. I am beginning to feel that he is very shy. He covers well but he is very reluctant to become involved. Showed interest in the mill for a while—caught on very fast.

As a whole Friday was a much better day than yesterday. I can't say why, for sure, unless it was the interest generated by the milling machine. The boys seemed to be contented in their activities for the most part. Prodding was not so necessary as it usually is.

They were paid today—I wonder if any will not show up Monday with money in their pockets now?

384. Monday, July 18, 1966. Subject FF. Absent today.

Subject GG. Seemed to enjoy field trip to airport very much. Showed interest in the engines and the aircraft. Did not seem to withdraw verbally from talking in his normal amount, but in a quiet nature. Seemed very happy and talked a lot upon returning to class.

Very cooperative during trip—but said nothing during trip out and back. Would only answer questions but would not add to the conversation.

Subject JJ. Same as Subject GG, seemed to enjoy trip. Was very interested in what he saw. Also said nothing on trip to and from airport.

As soon as we returned he was back to the milling machine.

Subject I. Absent today.

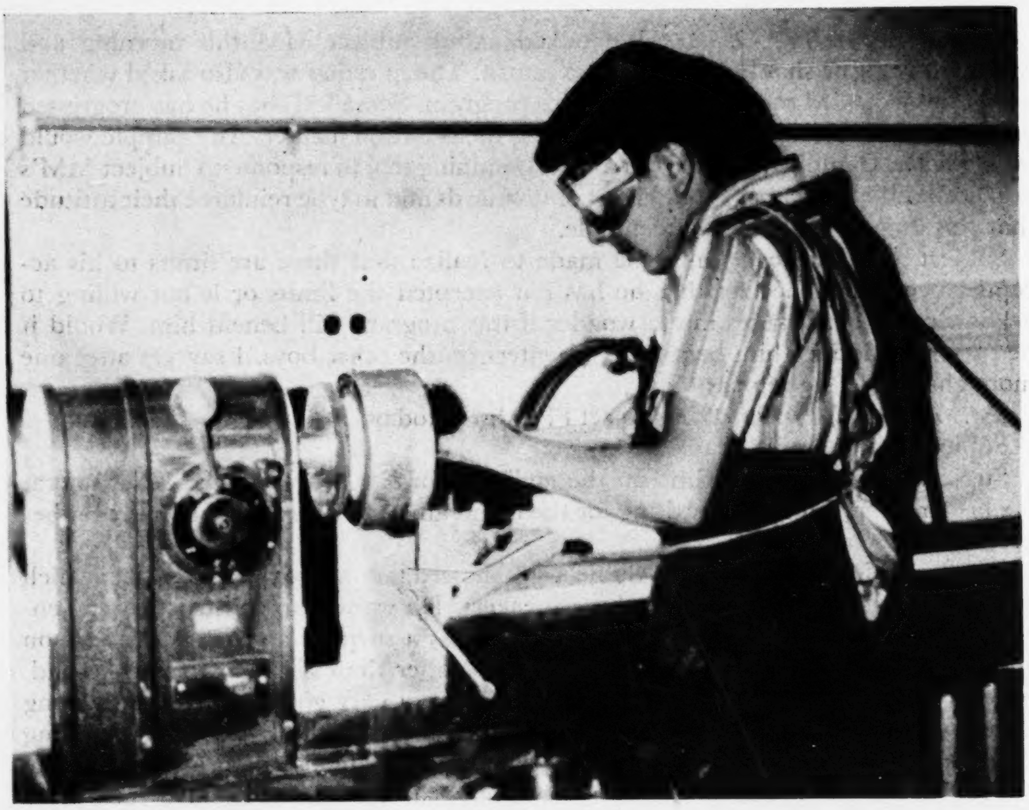
Subject H. Very reluctant to go today. Kept using the excuse that cab would be too crowded. Kept repeating that there wasn't room and that he wasn't going to go along.

At first refused to get into cab. I somewhow got the impression that he does not like to associate with his Negro classmates. This is only a guess on my part, but his actions lately seem to indicate this. However, when he has shown interest it seems to make no difference. He is now the only white who is regularly attending in our group.

At first Subject H withdrew from the group tour by lagging behind while we walked to the point of assembly. During first orientation for tour and first part of tour, he lagged behind and appeared to pay little attention. However, by the time the tour was ending he was walking right up front and his spirit seemed to pick up. Before leaving, we toured an electronics lab. There was a man working on some part and while we looked around Subject H spent his time observing this man trying to repair this device. I could not tell whether he asked any questions of this man.

The day went well except for Subject H's reluctance to go along. The other boys seemed to pay no attention to him.

He seemed to be asking for someone to make extended efforts for him to go along, or maybe to gain attention. No problems after we arrived.



A young student forms a jig on the woodworking lathe.

A teacher in training demonstrates how to level a patio block. In the foreground are two other cement projects, a barbell and a dumbbell.

459D. Tuesday, July 19, 1966. We talked about Subject MM this morning and whether or not he should be allowed to return. The question was also asked whether or not Subject MM should even be in this program. Some feel that he has progressed too far for us to handle without aggravating the situation further. An example would be when Dr. Campbell carried out a metal spinning tool in response to Subject MM's pop bottle. We revert back to their set of standards and maybe reinforce their attitude that this type of behavior is acceptable.

Subject MM, however, must be made to realize that there are limits to his accepted behavior. The fact that he has not accepted the limits or is not willing to acknowledge them causes me to wonder if this program will benefit him. Would it be better to sacrifice him because of his effect on the other boys. I say yes after one more chance—if he returns today.

384. Tuesday, July 19, 1966. Subject FF. Absent today.

Subject GG. Absent today.

Subject JJ. Spent some time on the end mill for the benefit of the TV camera. He became very impatient waiting for the cameramen to get ready. He had another project on his mind.

After we finished on the mill Subject JJ showed me an old wooden box which contained a small amplifier and three speakers. He wanted to construct a new enclosure for this sound system. This again came as a surprise and we had no lesson guides from the 459D to cover the situation. Rather than kill any interest he had, I went ahead and encouraged him. This gave him a very good experience in using measuring which they, as a group, had worked on earlier. I think he is also beginning to understand the concept of something being square. He also used a square today in his layout after we talked about the basic physical size that he decided each piece was to be. We discussed types of joints he might use and compared them to the ones used on his old enclosure. He discovered how certain joints could affect the basic size of some pieces, and consideration and allowances would have to be made in his case for the joints he chose to use.

For accurate layout he used the jointer to square his stock. A new experience. After layout he cut his pieces apart on the circular saw. A new experience. He then used the dado head to prepare joints for assembly. I was able to expose him to a lot of new things today. He was not under pressure to learn. He was self-motivated and accepted each new problem.

Subject I. Absent today.

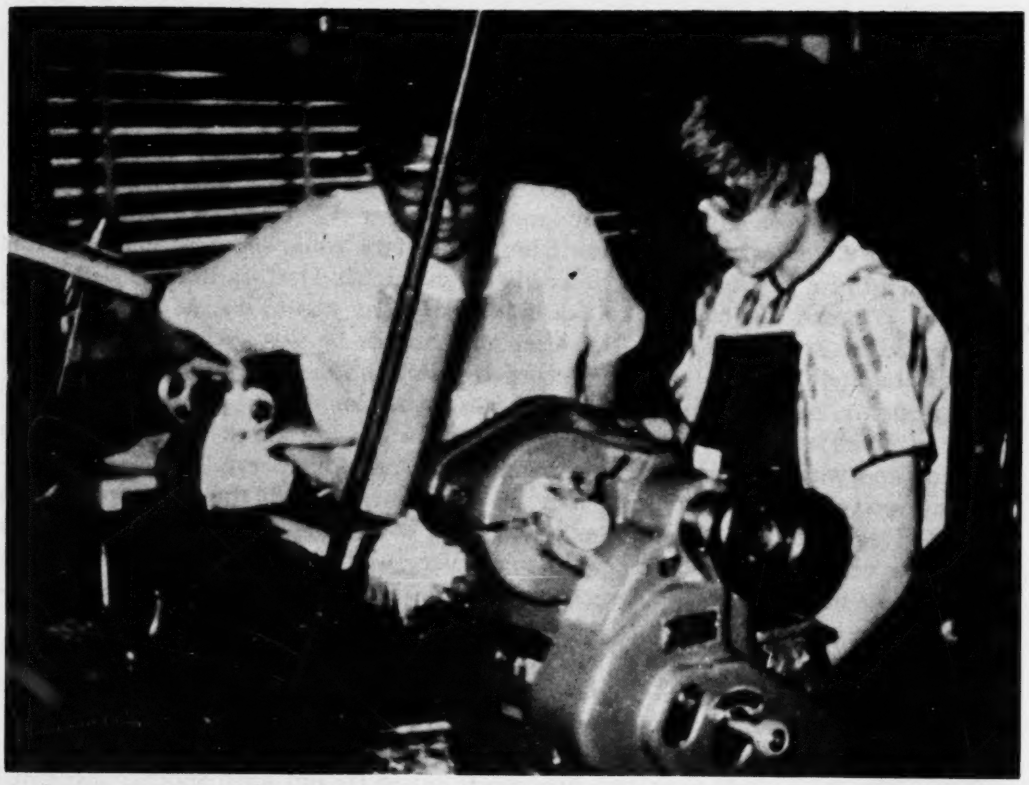
Subject H. Had little contact with him today, spent most of my time with Subject JJ. I did ask him about Subject I. All he says is that he isn't coming back. He won't offer any information on his own.

I asked him that if he saw Subject I to ask him to come back. No response from Subject H.

I am puzzled by the high absence rate. Friday seemed to be a very good day for everyone. So far I have had no indication of what might be causing this absence. I wonder if the pay check on Friday could be a factor.

We had a long discussion about Subject MM today. One of the main points I learned today was not to force a student into a position where he must defend his ego. One must give him an alternative or an out. He must be left to decide but he must have an out. If not then a negative reaction to the situation will occur. This doesn't help either the instructor or student. If the student must save face, he will usually do it, in a negative way.

459D. Wednesday, July 20, 1966. Mr. Guy Jones talked to us today. He is con-


A dropout-prone youth operates a machine lathe under the watchful eye of a teacher in training.

nected with the Special Services which are performed in the local school situation. Explained his program. He is not connected with the schools, only works with them.

They do no teaching—only counseling and guidance work.

My first impression is that too much financial aid is given to students with no responsibility on the students' part for full or even partial repayment. Make the opportunity available and attractive but they must also accept some responsibility even if it comes after their training is completed. They expect everything to be given to them, and it's starting to be.

384. Wednesday, July 20, 1966. Subject FF. Absent today.

Subject GG. He spent most of the day figuring out how to avoid working on the engine he said he would get running.

At the first sign of difficulty he gives up. Says the engine is no good.

Right now the engine is not producing the proper spark. Subject GG seems reluctant to accept the fact that if this engine function does not work the engine itself will not work. To determine the extent of his knowledge about the ignition system I acted surprised that there was a magnet in the flywheel. He said it made the spark jump at the plug. I asked him what the spark has to do with a magnet in the flywheel. He then gave me a fairly accurate description and function of the parts of the ignition system. He knew much more than he led me to believe. But for some reason he was unable or unwilling to apply it to solve the ignition problem.

I then found that the flywheel key was sheared off. He did not see what difference this would make. Will try to explain tomorrow.

Subject JJ. He had a variety of experiences today. He first started with his wood enclosure. He needed to cut some pieces to length and was shown the safe way to do it quickly on the circular saw. He then began glueing his enclosure together. While the glue was drying he made several attempts to mill another casting. Had difficulty in mounting casting securely to make cut. Was not able to solve the problem today.

Subject JJ was also exposed to the language master teaching machine today. He knew it was to be taped and combed his hair before going on. The machine was explained to him briefly and he proceeded right along. Had no difficulty in using machine. We used one card as an example of what he was to do. At first he spoke very quickly into the machine. But after a few cards he was speaking slower and more deliberately. The sound of the recorded voices and the cameras attracted many other students. As they milled around and asked questions, Subject JJ became the object of much attention. He assumed complete authority for the operation of the machine and was displeased at the clowning actions of his peers. He became completely involved in the machine. After he had gone through the first set of cards he was given a similar set and was asked if he could identify these tools with no printed or verbal helps. He appeared to do very well. However, it is not known how familiar he was with the tools beforehand. Seemed to be pleased with his performance.

He then returned to his wood project.

As the students were leaving today I noticed that Subject JJ was still back at the milling machine cleaning it up. No one else was around.

Subject I. Absent today.

Subject H. Spent little time with him again today. He did have another successful foundry experience today. He showed it to me at the sink where he was cooling the casting. I gave praise and jokingly asked him if he had really done the work. Still quiet but more active today.

At first I was not impressed with the language master. But, after using it today and seeing how it affected the students, I began to visualize additional possibilities for it.

We plan to use it further, possibly for steps of procedure, parts identification, etc.

459D. Thursday, July 21, 1966. For the last several sessions we have watched video playbacks and had discussion sessions at the same time. Difficult to follow both at once.

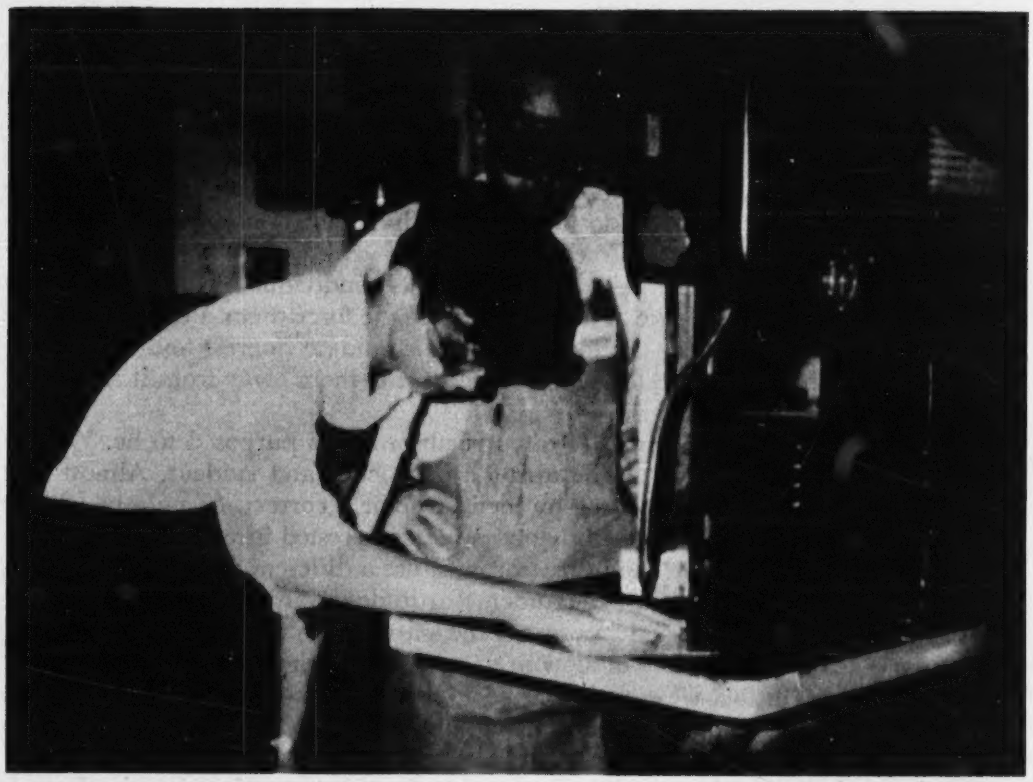
Talked about possible uses or applications for the language master teaching machine. We (my team) have begun using the machine—but mostly on a trial and error basis.

We would like to move into the welding area the first of next week. Want to work up something for the teaching machine on welding.

384. Thursday, July 21, 1966. Subject FF. Absent today.

Subject GG. He finally managed to get his engine running today. As usual it took prodding. We obtained a new key for the flywheel and the engine started on the second pull. He seemed pleased and his interest picked up. Several other students commented about the fact that he said the engine was no good and would not run. He made no comment to this. He was very reluctant to leave the engine to see a film. I wonder if the film was really that important. It might have been better to just let him tinker.

Subject GG also spent some time today trying to repair a pair of sun glasses. I offered no assistance and he asked me for none. He mended them so that they could



It takes concentration to cut metal to exact shape on the DoALL saw.

be worn but one side piece would no longer fold shut. He had quite a bit of trouble at the repair job but stuck it out until he was satisfied.

Subject JJ. Had continued success with his enclosure. Used a new power hand tool, a saber saw. Still does not seem to be thinking very far ahead of himself. Still concerned with immediate problems—cannot visualize problems ahead or time. Still seems highly motivated.

Was also reluctant to leave his project to see movie.

Subject I. Absent today.

Subject H. Only mildly active today. Worked a while on his cast items but was not interested in additional foundry work. Little contact with him today.

I became a little upset today when it was suggested by the seminar that we have a talent show to top off our six weeks with the students. These students are incapable of communicating effectively with adults let alone putting on a talent show in front of both adults and peers.

As a whole I think the students enjoyed the slides today, especially of themselves.

I feel a little drained, less motivated, less enthusiastic about the project today. I have a tendency to slack off on the curriculum attempts because they just are not vast enough to cope with all the situations in which I find myself. In many cases these short excursions into related areas are over and done with in a matter of 15 minutes to a half-hour. No time for preparation. No need to forward the requirement to the 459D class because the need has been supplied off the tops of our heads. All we can hope to do is orient towards a vocational nature as best we can.

I find these students much more receptive to an explanation when it occurs in conjunction with fulfilling a need, not in a discussion beforehand. It doesn't mean anything to them at that time.

459D. Friday, July 22, 1966. Today we finally let off some steam. Some of us are frustrated by having the feelings that we are trying to please and satisfy requirements and attitudes of those in power and the students with whom we are trying to work. I have been asked many times what we have done so far, what we are doing now, and what we are going to do next week. I have not organized my group to the point where I can say that on Wednesday of next week we will begin at a certain place and proceed to another point. If my students—individual or as a group—do not want to leave an area, I sure as hell am not going to force them. I did it yesterday and I feel I made a mistake. It's too difficult to stimulate interest and motivation in these kids in the first place, let alone trying to tear them away from it after they are finally started.

This whole project is not a matter of curriculum as it's purposed to be. We are really concerned with attitude. The attitude of teacher and student. Almost any curriculum will work if the approach by the instructor is correct. I would be willing to bet that in not one team have all five boys been interested in a group project all at the same time. This means the instructor must use a different approach on almost every student in order to stimulate the students' attitude toward an activity. There are personality conflicts which right away set the pattern for uncooperation between student and teacher. If these conflicts are not resolved the teacher gets nowhere with the students. In fact we even have had to rely on a psychologist for some help in a problem of attitude and our misunderstanding of it. I'm sure that more help along this line would be beneficial.

This to me indicates that teacher preparation for this type of student is of much more importance than some damn curriculum.

We can be concerned with vocational goals only after the student is willing to listen even if it is indirectly.

We seem to bog down many times in our discussions by trivia. I really have to fight to keep my attention—especially while someone's cigarette smoke is drifting into my face.

The class members are becoming concerned about grades. It comes into the conversation more and more now. We are not happy with the prospects. It seems the curriculum development will mean a lot and nothing really different is really coming along as far as I can see.

Another big problem as I see it is the fact that only five of us are directly concerned with the O. E. When I signed up for the courses I was told they were a package deal. You must take both. They should have stuck to their word. We could have really gone to town by discussing these curriculum problems as a whole group of concerned and involved teachers. Some of the guys could care less what happens down in the lab or whether or not we visit a home.

The home visit information will not benefit us anyway.

384. Friday, July 22, 1966. Subject FF. Absent today.

Subject GG. Finished adjusting carburetor on engine. He also repaired a fuel leak between carb and fuel tank by making a gasket to help make a seal. Engine seems to run well. Still seems unmotivated.

Subject JJ. Still very active on his enclosure, used electric sander today to prepare enclosure for finish. He applied stain and then used a spray gun to apply two coats of deft.

Subject I. Absent today.

Subject H. He spent much of the day with the language master machine. He seemed interested in operating it. Another teacher in training worked with him.

384. Monday, July 25, 1966. Subject FF. Returned today after being out a week. Offered no explanation as to why he was out—was not asked for one.

No obvious attitude change. Still somewhat unconcerned. Goes along with whatever is suggested.

Mr. ——— (teammate, teacher in training) got him started welding today. Not really sure how things went.

Subject GG. His attitude is getting progressively worse. He did not appear to cooperate with Mr. ——— (teammate, teacher in training) at all today. Simply will not agree to any activity that is suggested to him. He has mentioned making a cane. This has been his only offer. We have turned him down. I have the feeling it would then turn into a club. This may be causing him to rebel.

In the process of trying to get him active today I reminded him that inactivity meant no pay. I have been somewhat stern with him but always ready to help. He told me not to talk to him. I replied by saying I had a right to talk to him if I wanted to. I did not force him into a position where he had to defend himself. At no time have we demanded that he do something. It has always been up to him to make the decision. It still doesn't seem to be working with him. I don't think trying to force him will work either.

Subject JJ. Hooked up his amplifier today—seems to work well although his enclosure is not complete.

He brought in some grill cloth today for the front.

We had plans to start all three boys in the welding area today. While we were trying to get set up, Subject JJ went ahead working on his amplifier and we were approached in order to make a camera shot of his activity. This meant that our whole routine was upset because one boy was now out of the group. We performed for the camera and after a short time the cameras left. The rest of the group had already begun welding so I let him go ahead and work on his enclosure.

He seems to be having many small successes with his enclosure. I think this is reinforcing his attitude toward his project. He has been at it for quite a while and is still going strong.

Subject I. Absent today.

Subject H. Absent today.

I am beginning to resent very much the intrusions for the sake of the camera. I was under the impression the camera was to be as candid as possible so as to catch the activities as they *actually* happen. This has not been the case. We are acting for the camera—what is being recorded is not the actual situation.

Both my teammate and myself are becoming discouraged about our inability to motivate Subject H, Subject GG, and Subject FF. It seems like a useless struggle. We don't seem to be making any headway. As a result we tend to expect the same results from our students and therefore do not really prepare for each day.

I just remembered an incident that I forgot to record on July 18, the day of the field trip to the airport.

While we were waiting for a cab all of the students just sat around except Subject H. He seemed fascinated with leafing through a bunch of flying and aviation magazines that were in a magazine rack in the room. Did not say a word, just leafed through the magazines.

459D. Tuesday, July 26, 1966. Saw some video tapes of myself today. Students still seem to be very aware of what is going on during taping sessions.

As I have mentioned before the cameras and lights should already be on and ready to go. Any special preparation for the cameras is a distraction.

We talked for a while about format to be used to evaluate our sessions that we have presented. I feel that my evaluations are somewhat skimpy. I have not always included any suggestions for inadequate areas of the lesson. In many cases I really don't know. It seems to me, however, that if these students are not responding to the concentrated efforts they are receiving here that they should be referred to psychiatric help. This situation must be better than a normal school situation and if they do not respond I wonder if they are beyond our help?

If these boys are so maladjusted that they will not respond they must be helped by someone who is capable of understanding their actions and reactions and then determining a course of action that could prove of benefit to the student.

Ordered another film this morning to be used this afternoon.

Also called the mother of Subject JJ last evening and made an appointment to talk with her today at 3:15. She sounded very interested and cooperative over the phone.

384. Tuesday, July 26, 1966. Subject FF. He had some cutting, trimming, and filing to do on a previous foundry project. Helped him get started on the metal cutting bandsaw and also showed him which files to use and why certain files would work best.

Subject GG. No contact or conversation with him today.

Subject JJ. Talked with him about what he was going to try to do today. He needed some wire so we looked and finally found enough to do the job. Explained why enamel-coated wire was not desirable for this particular job.

Subject I. Absent today.

Subject H. No contact or conversation with him today.

I left early today in order to make my home visitation. Another teacher in training and myself decided to go together. I was able to make an appointment with Subject JJ's mother but——— (teacher in training) could not because there was no phone in Subject FF's home. Subject FF was told of our plans to visit but he did not relay the information to his mother.

We arrived at Subject FF's home first. The first thing that I recall was the large number of small, dirty children playing about. Then I noticed a strong odor that seemed to come from everywhere.

The mother seemed leery of our presence as she presented herself through the screen door. We were not asked inside. As ——— (teacher in training) explained our presence and began his questioning I tried to become acquainted with some of the older children who were present. They seemed happy and were quick to smile when spoken to. They themselves had nothing to contribute to the conversation. They just remained quiet.

Subject FF's mother did not offer comments to questions either. She simply responded with a yes or no. In many cases when examples were given in order to clarify a question she would agree with the examples.

Subject FF's speech patterns are identical to his mother's. A somewhat low voice with slurred words which run together. Many times the last part of a statement or comment were dropped almost completely in her presentation.

It is amazing that Subject FF has been able to make the transition between these two worlds at all.

I haven't the slightest idea how to help him.

VACUUM FORMING
BLOW FORMING
WOOD LAMINATING
ELECTRICITY
METALWORKING
SHEET METAL
MECHANICAL POWER TRANSMISSION
ELECTRICITY
WOODWORKING
CONCRETE WORK
METAL CASTING

A partial view of the many projects made and displayed by the dropout-prone students during the summer program.

The mother mentioned that he was charged with stealing $150 worth of records. She felt he was innocent. He has to appear in court soon.

She also indicated that the fair played a large part in his absence from school last week.

When we arrived at Subject JJ's home around 3:00 we were informed by a boy with a broom that Subject JJ's mother was called to work that day and would not be back until around 4:00. The boy was apparently sweeping.

We returned at 4:00 and she still was not home from work. We then waited around the corner for her to return. During the wait a number of Negro boys were enjoying themselves in front of a snack bar. They seemed to have no other responsibilities with which to be concerned.

The mother arrived home about 4:15. We were asked to come inside. Things were very orderly although in poor condition. She seemed very willing to cooperate.

She verbalized much more extensively to the questions than Subject FF's mother did. In no case did she refuse to answer a question and appeared very concerned.

By this time Subject JJ was home but only walked through the room once. I asked about his progress in the lab today. It apparently went well. He then left sensing that he would be of more help by not being present.

At the beginning I told his mother not to answer any questions she felt she would rather not answer.

As we were leaving Subject JJ approached and asked if I would like to look at his go-cart. I said yes and we walked around behind the house to where the cart was parked. Grass did not prevail in any part of the yard, only hard-packed earth. Bits of broken glass and weeds were scattered through the cluttered back area which also contained a dog house. The only thing to stand out in the area was the red engine on his go-cart. It seemed to be the most well-kept item out there.

Our interest and presence there seemed to be a source of pride to him.

There were other children around but I do not know whether they were brothers, friends, or both.

459D. Wednesday, July 27, 1966. Saw some tapes today on a plastics unit. I liked their approach.

I am getting the feeling that things are being turned in and being prepared for only one thing—a grade. I do not feel that an elaborate outline necessarily indicates a good approach.

384. Wednesday, July 27, 1966. Subject FF. Had little contact with him today. He worked with another boy on the other boy's engine for a while.

Subject GG. Seemed determined not to do anything at first. Mr. ——— (teammate, teacher in training) was trying to get him started on the reassembly of an engine but he just did not seem to want to get involved. The engine was producing no spark due to a broken part so Subject GG used this as an excuse not to participate.

Later he approached me about making a small cosmetic cabinet. This is one of the few times he expressed a desire to work on a certain product. Simply expressed no interest before.

He persisted with his idea so we obtained a piece of paper and we sat down to talk about what he had in mind. He decided upon the physical dimensions and we talked about the number of pieces needed and how they could be joined together.

We ran out of time—will proceed tomorrow.

Subject JJ. Put the finishing touches on his enclosure. He turned it on and several of his peers gathered around to try it out—seems to work well. He then submitted it for display along with his laminated fork.

He brought in his go-cart today. He wants to build an extra seat for a passenger on the back. Upon looking at the cart I discovered a patch-up job on a brake linkage—I suggested he fix that before working on the seat. Thus he was exposed to a problem that could be solved by brazing. So I introduced him to brazing. We had great difficulty dodging the TV cameras. Then, besides this, the flux was in use and we could find no goggles to use.

We did manage several trial runs at brazing and then he repaired the brake linkage. He seems to be moving very rapidly through each of his problems. Catches on very quickly, is able to visualize and look ahead better than the rest of our group.

Subject I. Absent today.

Subject H. Returned to engine and proceeded to get it running very well today. At one point today he became engrossed with the activities of another group. Rather than harrass and maybe stifle a new interest I said nothing to him. He seemed sincerely involved—caused no problems. Soon he returned to his engine.

One very good feature of the diverse area coverage by the five groups is that a student is able to observe other groups in action in both success and failure. I just gave an example about Subject H. Many other students also paid a lot of attention to Subject JJ's speaker enclosure. They may be observing and learning much more than we think.

459D. Thursday, July 28, 1966. We discussed teaching aides today. In general they are serving us well—but there is a noticeable difference in their levels of maturity. The more mature aides work out much better.

I felt I must explain to the class that the teaching team member in 384 in all cases is an inexperienced college student. They are freshmen and sophomores and find themselves way out on a limb in most of their contact with these students.

The teachers in 384 should all be taking 459D.

384. Thursday, July 28, 1966. Subject FF. I did not pay much attention to him today. He spent some time working on a casting—he painted it today.

Subject GG. Worked very well today. Interest is still very high on his cosmetic box. Made the cuts for his joints and shelf today. He made a measurement error on his shelf and had to recut it. I think this mistake was a good one for him. I think he is beginning to realize the importance of good, accurate measurement now.

He was very cooperative and listened while I was talking and explaining things to him. I am beginning to work my way from him now to see what he can do on his own. He had a good day.

Subject JJ. Mentioned he wanted to begin work on a rear seat for his go-cart. He rounded up a piece of paper and a piece of pipe. We discussed several ways the seat might be made.

I asked him what would happen if the person in the rear seat caught his foot between the cart and the ground. He had not thought of that. We discussed ways that a bottom could also be included to protect the feet. He indicated that he had once fallen off the cart and skinned up his arm. He then realized he was responsible for any injury to a passenger. He later decided against the seat in favor of painting the cart.

I also suggested to him the advantages of having a quick-jack to raise and lower the rear of the cart so the engine could be revived without moving the cart because of a centrifugal clutch system. This appealed to him also and wanted to know if he could both make and paint the jack.

We talked through the function of the jack, how it was to be used, and then proceeded to find materials, and he started construction. A good day for him.

Subject I. Absent today.

Subject H. He seemed interested in the spheres inside of spheres that Dr. Tinkham displayed today. Spent some time at first looking at them.

He then expressed the desire to try his hand at some arc welding. This is the first I can remember *he* has suggested an activity.

After enough explanation to get him started he began welding. The next thing I realized was that it was clean-up time and I had not made contact with him since he started. I must spend more time with him tomorrow.

It seemed to be a good day as a whole.

For some reason Subject GG seems to have had a change of heart. Always before he indicated he didn't care to work with me. But, now he is.

Subject H still mumbles to himself when frustrated. Especially when asked to do something that he does not want to do.

Subject FF also spent some time with Subject K on an engine today. Not sure what was accomplished.

459D. Friday, July 29, 1966. Students put up a front—they pretend to know much more than they really do.

384. Fridav, July 29, 1966. Subject FF. Spent some time drifting between welding and fiddling around with another boy's engine. I think just to weld by laying beads does not hold his attention. However, I'm sure he would not have success attempting to weld some project. I must find a simple item on which he can weld with some success.

He has made no noticeable improvement in his ability to think ahead and think through a situation. Shows little intrinsic motivation. However, he did ask me about a school for power mechanics. He expresses interest there but I doubt if he could be successful.

Subject GG. I found out today that this is his last day here. He is going on vacation with his parents. Worked well today. Glued together his cosmetic cabinet, applied a stain, and sprayed a coat of deft all during the same session. He was rushing through to get finished because it was his last day.

His attitude was good. I wished him a good vacation and he thanked me. Seemed to appreciate my interest.

Subject JJ. Finished welding on his quick go-cart jack. I think he could become a welder. He seems to have the knack or feel for arc welding. He performed all of the welding operations on the jack.

Removed both rear wheels from cart. Is getting it ready to paint. We looked at our paint supply, all we could find was black. He decided that was ok.

Subjects I and H. Absent today.

I hate to say this but the days seem to go better without Subjects H and I around. I find myself avoiding Subject H rather than trying to get him involved. He seems to have such a negative attitude most of the time—maybe I do too without realizing it. He will not follow our suggestions for activity, instead he wanders off and becomes involved in another area. Many times we are not there to help and he fails at these tasks also. This failure in turn only adds further to his problem it seems.

384. Monday, August 1, 1966. Subject FF. Seems to show interest only in the engines. One engine was assembled and several parts were omitted. He replaced these omitted parts. However, he was asked to do it.

Subject GG. Absent today.

Subject JJ. Spent the day removing the front wheels of his cart, removing grease and grime from frame, and spraying on coat of paint.

Subject I. Absent today.

Subject H. He went along with Mr. ——— (teammate, teacher in training) to pick up an engine part. I felt this would be a good situation. I do not know how the trip went. After they returned, he moved off on a tangent again. I found him carving with an exacto set. We seem to have lost all rapport with him. I don't know what else to do. He resists all suggestions and expresses no desire on his own.

Spent a couple of hours on a display today. Will spend a couple more tomorrow.

459D. Tuesday, August 2, 1966. Class did not meet.

384. Tuesday, August 2, 1966. Subject FF. Spent the whole day assembling an engine. Several additional parts remained in the tray for the engine. He could not get the engine to run. He was persistent.

Subject GG. Absent today.

Subject JJ. Applied a second coat to cart and cleaned and painted wheel rims silver. Displayed a sense of dry humor when asked if he would sell cart. He is quite a bargainer.

Subject I. Absent today.

Subject H. He was asked to do a brazing job for me today. Took him quite a while to decide whether or not he wanted to do it. He decided he would. Could not get the part from the engine. It had to be brazed in place. After some playing around he finally managed to complete the task.

After a lengthy break he went ahead and got the engine running on his own.

I am beginning to dread this class. I'm saturated with the situation.

We filled out a form tonight. We were to rank our five students 5 through 1. However we now only have 4 ranks. The third position or choice of position was taken away from us and automatically given to the dropped student. We could not use this third position. Now how in the hell can the group be ranked if one of the ranks has already been assigned by someone who is uninvolved directly with the group. This damn thing is completely useless and invalid.

Frankly, I have had about all the wordy questionnaires and evaluation sheets that I can honestly fill out.

459D. Wednesday, August 3, 1966. Viewed some video tapes. Discussed a definition of what a dropout-prone youth tends to be like. There were eight or nine points to the definition. Was very good. Was not able to get them all written down. These points seemed to describe our students very well.

384. Wednesday, August 3, 1966. Subject FF. Spent over an hour today with him in filling out the case study form. He was very cooperative. He was slow to answer many questions but I got responses if I waited.

Afterward he returned to the engine and spent the rest of the day trying to get it running. It only sputters so far.

Subject GG. Absent today.

Subject JJ. Assembled his cart. Cleaned the seat and applied a coat of wax to cart frame. Spent a lot of time just talking and working with him. I find myself spending too much time with him. He is too easy to work with I guess.

Subject I. Absent today.

Subject H. Did nothing today. I shouldn't but I keep avoiding him. I did manage to spend some time just standing close by and talking with him when possible. He says very little. At the time he was chiseling a piece of pine. After a while he began chewing up the wood and eventually destroyed what he had begun. I feel he needs much more help than we are able to give him. I have never been able to establish rapport with him. Seldom does he respond to any activity. He is still unable to commit himself to an activity—it is only a temporary interest.

After class today we had a very good discussion. Subject CC sold a cigarette lighter which belonged to another boy. The question was how were we going to react to the situation. If he were openly reprimanded, it would only make things more difficult for the owner of the lighter. We felt we should not ignore the situation because he openly bragged about what he had done.

The problem was to show Subject CC that this kind of activity was not acceptable but still not place hardships on innocent peers. The answer was very simple once we decided it was not necessary to *punish* him in order to show him his actions were not acceptable. Punishment in this case would only be revenge and would only aggravate the situation. It would feed further Subject CC's hostility toward authority. He simply made a mistake—which is not really so bad at all. It was decided to have one person work with him to either give back the conned money and restore the situation as it was originally or simply deduct it from his bonus pay. In either case it would then be forgotten about.

We felt the boys involved had learned their lesson from this experience.

It was a good discussion.

459D. Thursday, August 4, 1966. Saw video tapes and talked further about Champaign O. E. program. Mr. MacGregor feels that much more has really happened to the O. E.'s than has been indicated on the standard tests that were administered. Academically they showed no significant improvement; however, they did maintain the same level of achievement carrying only 50 percent of a normal class load.

I think that the discussion that followed the regular class was also very enlightening. It was a classic case of a white person's opinion that the Negro should pull his neck from the noose he is pulling on as compared to a tolerant explanation of the Negro's side of the problem. It is amazing how stubborn and set in his ways the white man is. He holds the same opinion that most whites have held since Lincoln: "if they want to get ahead and improve themselves they should do it on their own." The catch here is that the whites have shut all of the "get ahead" doors.

The discussion became heated with the white person not willing to accept a new train of thought about this problem. By the way, this white man is a high school counselor in Chicago.

I just realized that I made no attempt to get copies of lessons and evaluation to my teaching partner in the 384 class.

384. Thursday, August 4, 1966. Subject FF. Finally managed to get his engine running today. Bad spark plug. He still needs to adjust carb.

At the first part of the period, he helped Subject JJ wipe the polish off his go-cart. They both seemed pretty proud of it.

Subject FF seemed to have a good day. I do not think I have ever seen him laugh. He does smile slightly once in a while but has never expressed open laughter.

Subject GG. Absent today.

Subject JJ. Polished cart. I wanted to spend more time with Subject H so I left Subject JJ on his own. After a while I realized that he was on the milling machine. He was cutting on an aluminum casting that had lain around for some time. Seemed to really be enjoying himself. I asked him if he had changed the r.p.m.'s of the cutter to see how it would affect the cut. He was reluctant at first—I think he felt it was too much trouble—but after I showed him this and also how to change cutters, he went ahead on his own.

Subject I. Absent today.

Subject H. Spent some time welding today. Did a butt and a tee weld. Not too bad for his first try. Lost interest quickly. Spent the rest of the day whittling on a piece of wood. Does not seem to respond to praise—at least openly.

At one point refused to continue welding. I told him I wanted him to try the tee weld. He refused and I went ahead and walked over to the welding booth. He reluctantly followed later. Continued until through, then quit.

He will be docked some time today.

Apparently our idea of how to handle Subject CC worked. He said he would pay back the 50 cents. This remains to be seen.

Our two visitors seemed much more impressed than the way I feel right now. I do not feel that I have accomplished much, or made much progress.

Only under closely controlled conditions would I agree to teach a group of these boys on my own.

459D. Friday, August 5, 1966. I wish we had been properly oriented to the *total* program at the very first. I thought we were on a downhill road finally—but today we find out we have to come at night to take a final so the days can be used for interviews. I dislike finding out new requirements and obligations at the end of a session. I dislike spending so much time without previous knowledge.

We were also led to believe we would have some time off from classes next week. This is true except we were let out in order to handle interviews and be interviewed. Why were we not told of this to begin with? Maybe I am being too critical about trivial matters but that's the way it is.

384. Friday, August 5, 1966. Subject FF. No particular change in him today. Still on a slow easy-going pace—shows no excitement. Cooperative.

Subject GG. Back today. Had nothing to say about his trip. Spent little time with him. Seemed a little excited about the last day.

Subject JJ. Seemed a little more excited today than usual. His go-cart was ready to take home. Seemed pretty proud of it. Helped him carry it outside to be picked up to go home.

Subject I. Absent today.

Subject H. The first thing I realized about him was that he was throwing away everything in his locker, projects included.

He seems excited also but was not destructive or disruptive. All during the whole six weeks he seemed to want help and attention, but just could not bring himself to accept it.

I think the class enjoyed seeing themselves on TV. I tried to observe my students' reactions to seeing themselves as best I could. Subject H appeared on tape quite a bit—in some cases he smiled and others he appeared very serious in observing himself. I feel that students were also reacting to peer reaction at seeing them. In general there was a lot of laughing and joking but in an orderly way.

It would have been better if every student could have been on TV for a short time.

459D. Tuesday, August 9, 1966. We were video taped today while we were responding to what we saw on video tape.

Another hindering factor in organization appeared today. Several students were informed today about the additional requirements of interviews and the change in final time. We were told Friday only because we were around after class—the others had other classes to attend. This is not good for student morale.

384. Tuesday, August 9, 1966. Shot a lot of breeze today. We were asked to answer two questions about our reactions to the program. They are due tomorrow.

I am unhappy about having a final in this class. I do not think it is called for. There is nothing to test for. It can only be another opinion collective device. I am about opinioned out.

Subject H was in today for his exit interview. I should have talked with him but I didn't. I don't know why.

459D. Wednesday, August 10, 1966. Discussed some ideas from a book by Frank Riessman on *The Culturally Deprived Child,* the title of his book.

He indicates a program of creativity is needed for this type of youth. Also they must have help in their reading difficulties. He also mentioned a special teacher education program.

The dropout-prone youth should not be threatened with expulsion from school. This only backs him into a corner.

Teachers of dropout-prone youth tend to have low morale. This is due partially to staff attitude toward them and not being able to see progress being made. These teachers must feel they are making a contribution.

We must look for something other than academic achievement in these students.

384. Wednesday, August 10, 1966. Saw some slides that were taken previously. We also talked about a situation which happened to Subject U today in which he refused a taxi ride to attend his exit interview appointment. As we found out he had a perfectly valid reason for not meeting his appointment.

The 459D group too had a very good discussion today in our exit interview. I was able to express some opinions today that I wanted to get off my chest. Very worthwhile experience.

459D. Thursday, August 11, 1966. Talked today about ways in which O. E. programs could be started and where funds could be obtained in order to help support such a project.

We have our final tonight. We also turn in our diaries tonight.

I do not have time to have a reaction to a situation because I am too busy recording *the last one.*

SUMMARY BY CLASS INSTRUCTOR

Mr. Neil E. MacGregor, Supervisor of the Occupational Exploration Program of the Champaign Community Schools and masterful instructor for the graduate curriculum class (Votec 459D) was asked to write a short summary of his reactions to the summer experimental program.

Since about a year has passed and I've had time to reflect back on the total of what was attempted, I feel that generally we did well, but I do have some reservations.

I feel that whatever the benefits to the participating University students and the Occupational Exploration pupils may have been, the mere fact that some recognition at the University level was given to the problems of this segment of the public school population is certainly commendable and noteworthy. There were benefits, I'm sure, to both University and Occupational Exploration students, but these are hard to assess, since in either case we have no way of really measuring the change brought about by the experiences encountered during the project.

The reservations I have are general and are factors which possibly could not be changed, but are important to any further research in this field.

Since these youth have developed hostile, anti-authoritarian, anti-school attitudes over a number of years, the possibility of supplying them with really significant experiences in a six week span is slim. It would appear that we would have to have provided something approaching a traumatic experience to be able to really effect some change. In other words, many of the types of things we did were perhaps good, but the effects of such experiences can be evaluated only after the treatment has been supplied over a longer period of time. Such changes in attitude are seldom observed as a smooth transition from undesirable toward a more desirable attitude but rather are a series of gains and setbacks as the youth makes an adjustment. Therefore, while we may have been supplying good treatment to the group as a whole, on any given day or during any given week, it may have appeared as though the youth were not making gains. They may have merely been in transition toward developing more desirable attitudes.

If this observation is true, then the feasibility of carrying out the objectives of the research is seriously in question. In terms of the first objective, "to explore the dimensions of the dropout-prone youth problem..., I feel that we had just begun to accomplish something before the term ended. The other major objectives, I feel, could not really be accomplished, since the youth under treatment served as a fulcrum upon which these objectives were balanced. Without enough time for real change to become evident, the data is not as valid as it could be.

I heard much about lack of organization, etc. This of course, took its toll in relation to the amount of time we had to work with the project, but in terms of other projects with which I've been associated the problem of organization was not bad. If we had been able to run the project longer, things would have smoothed out and become very efficient in a short while.

I was most impressed with the use of the video tape and other audio-visual techniques used. This is the coming thing in the public schools, I think.

The high quality of 459D students was also inspiring. That such people could be attracted into this research makes me very pleased. I would like to know if these students have been able to incorporate some of their experiences of last summer into their present professional activities.

In summary, I think the project was well worth the time, effort, and funds expended. I feel that much was gained by everyone involved.

The positive factors could be summarized as follows:

1. Recognition of the problem at the university level.
2. The research design was good but with the limiting factors as noted.
3. The utilization of audio-visual techniques was excellent, especially the use of video tape.
4. The high quality of university students was very impressive.

The limiting factor which seriously affected the total outcome of the project was the length of the project period.

Data Presentation and Analysis of the Teachers-in-Training Class

OBJECTIVES FOR VOTEC 384

Dr. Robert A. Tinkham developed the following ten objectives for his teachers-in-training laboratory class. Goals for this course consisted of the development of:

1. a working knowledge of current sociological, psychological, and economic thinking on dropout-prone youth.
2. an ability to make use of public school records and to work with individuals who are involved in the school retention program including school personnel, probation officers, and staff members of social welfare agencies.
3. a skill in planning instruction on a level suitable to the learning capacities of dropout-prone youth.
4. the ability to present subject matter to dropout-prone youth on their level of development and understanding and with a variety of methods and techniques.

5. the ability to evaluate student progress not only in terms of subject matter accomplishment but also regarding improvement in attitude, outlook, and behavior.

6. an acute awareness of student reaction to the total program and to the immediate phases of it so that the trainee knows when he is on the wrong track in his teaching.

7. a flexibility in his instructional program that allows him to capitalize on student interest and subsequent involvement even at the cost of spur-of-the-moment minor changes or possibly a major revision in his plans.

8. an ability to develop rapport with dropout-prone youth with their typical background of a low socioeconomic home life, a poor academic record, a below-average social and emotional adjustment, and an overall aversion to formal education.

9. an ability to recognize indications of emotional disturbances and to know how to proceed in coping with or alleviating these kinds of problems either directly or by referral to specialists in the school.

10. an understanding of the case study method and skill in using it effectively as a research tool.

AREAS OF ACTIVITY

Following is a summary of O. E. student activities in Votec 384. These are not presented in any time sequence as different teams were working at various activities concurrently.

Wood	First day take-home project—trick propellor
Sketching Unit	Paperwork
Measurement Unit	Paperwork
Sheetmetal	Toolbox
Electricity, Wood and Sheetmetal	Combined bookend and lamp
Plastics	Molded pen holder
Plastics	Laminated salt and pepper shakers
Wood	Walnut serving tray
Mass Production	Corn skewers
Plastics	Vacuum-formed checkerboard
Plastics	Checkers—molded thermo-setting rubber
Sheetmetal	Fish hook and sinker box
Construction	
Cement	Patio tiles
Cement	Hand dumbbells and 45-pound barbells

Carpentry	Mock-up of a small building 4′ x 4′ with studs cut half length
Field Trip	Creative Builders—prefabricated apartments, churches, and offices
Wood	Free-form gouged bowl
Wood and Metal	Bookends
Sheetmetal	Toolbox
Field Trip	Large sheetmetal fabrication plant
Mass Production	Blow-formed salad bowls
Metal	Spot welding machine
Metal	Arc welding
Wood	Hand-carved wood sculpture
Metal	Brazing and gas welding—minibike
Spray Painting	Go-cart
Foundry	U. of I. emblems
Foundry	Thespian masks
Metal	Free-formed bowls on Pulmax machine
Machine Shop	Lathe, surface grinder, drill press, shaper, milling machine, power hacksaw, Bridgeport, Do-ALL saw
Power Mechanics	Disassemble and assemble small engine; repair of small engine
Field Trip	Airport to observe maintenance department
Electricity	Small electric motor
Wood	Wood turning
Mass Production	Game puzzle
Wood	Laminated salad fork and spoon

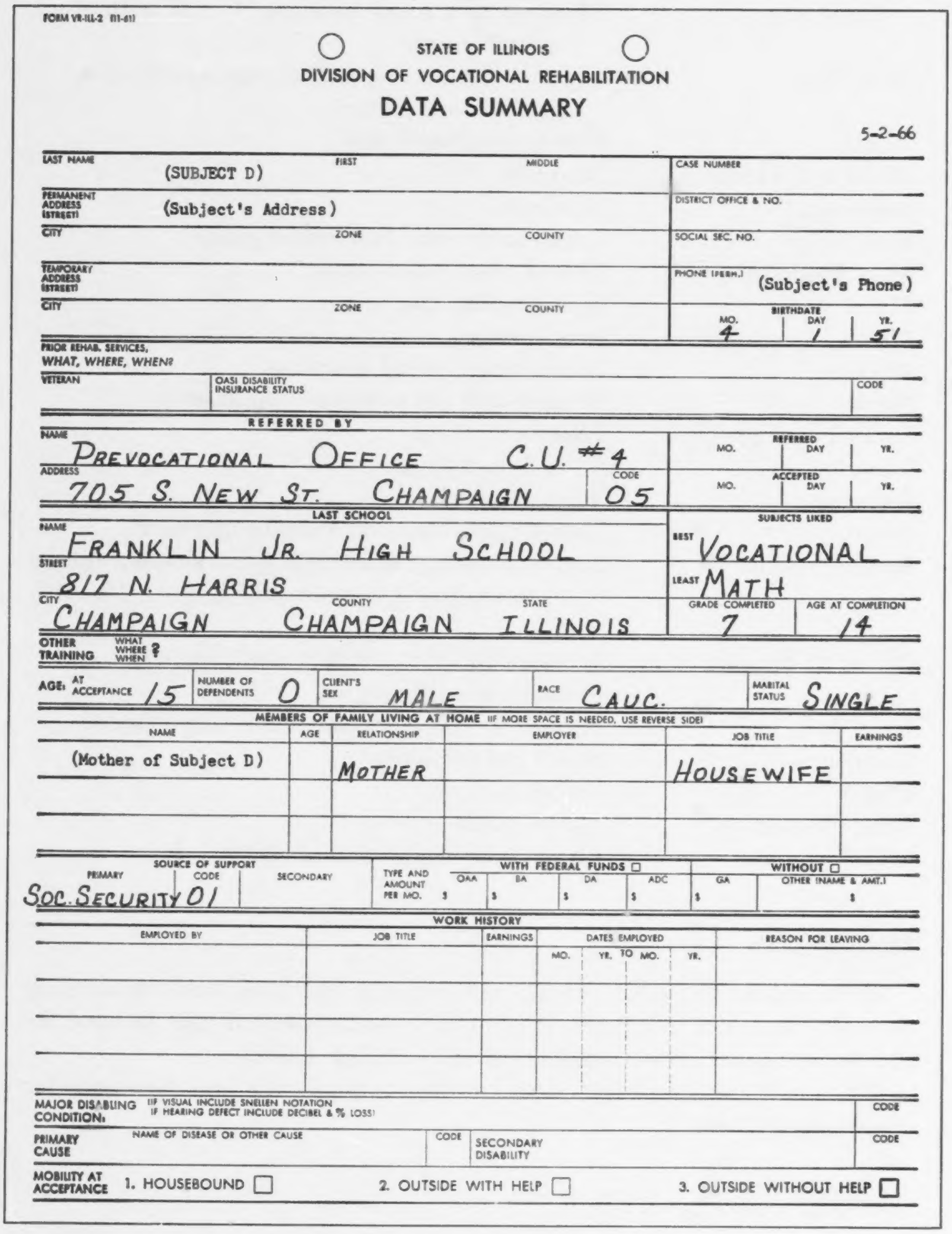
KINESCOPES

If the reader wishes to actually see and hear the O. E. students working in many activities just listed, it is strongly recommended that he send for the 16-millimeter movie entitled *Part III—Student Activities*.

Refer to the inside back cover for the complete title and directions for obtaining the film.

SAMPLE CUMULATIVE FILE

To enable the reader to gain a better insight into the data which was available on *each* O. E. student for use by the summer experimental project personnel, the following complete sample is reproduced. The only project personnel excluded from these files were the lab. aides. Some data came



FORM VR-ILL-2 (11-61)

○ STATE OF ILLINOIS ○
DIVISION OF VOCATIONAL REHABILITATION
DATA SUMMARY

5-2-66

LAST NAME (SUBJECT D) FIRST MIDDLE
CASE NUMBER
PERMANENT ADDRESS (STREET) (Subject's Address)
DISTRICT OFFICE & NO.
CITY ZONE COUNTY
SOCIAL SEC. NO.
TEMPORARY ADDRESS (STREET)
PHONE (PERM.) (Subject's Phone)
CITY ZONE COUNTY
BIRTHDATE MO. 4 DAY 1 YR. 51
PRIOR REHAB. SERVICES, WHAT, WHERE, WHEN?
VETERAN
OASI DISABILITY INSURANCE STATUS
CODE

REFERRED BY

NAME PREVOCATIONAL OFFICE C.U. #4
REFERRED MO. DAY YR.
ADDRESS 705 S. NEW ST. CHAMPAIGN
CODE 05
ACCEPTED MO. DAY YR.

LAST SCHOOL

NAME FRANKLIN JR. HIGH SCHOOL
STREET 817 N. HARRIS
CITY CHAMPAIGN COUNTY CHAMPAIGN STATE ILLINOIS

SUBJECTS LIKED

BEST VOCATIONAL
LEAST MATH
GRADE COMPLETED 7
AGE AT COMPLETION 14

OTHER TRAINING WHAT WHERE WHEN ?

AGE: AT ACCEPTANCE 15
NUMBER OF DEPENDENTS 0
CLIENT'S SEX MALE
RACE CAUC.
MARITAL STATUS SINGLE

MEMBERS OF FAMILY LIVING AT HOME (IF MORE SPACE IS NEEDED, USE REVERSE SIDE)

NAME	AGE	RELATIONSHIP	EMPLOYER	JOB TITLE	EARNINGS
(Mother of Subject D)		MOTHER		HOUSEWIFE	

SOURCE OF SUPPORT

PRIMARY Soc. Security CODE 01
SECONDARY
TYPE AND AMOUNT PER MO.
WITH FEDERAL FUNDS ☐ OAA $ BA $ DA $ ADC $
WITHOUT ☐ GA $ OTHER (NAME & AMT.) $

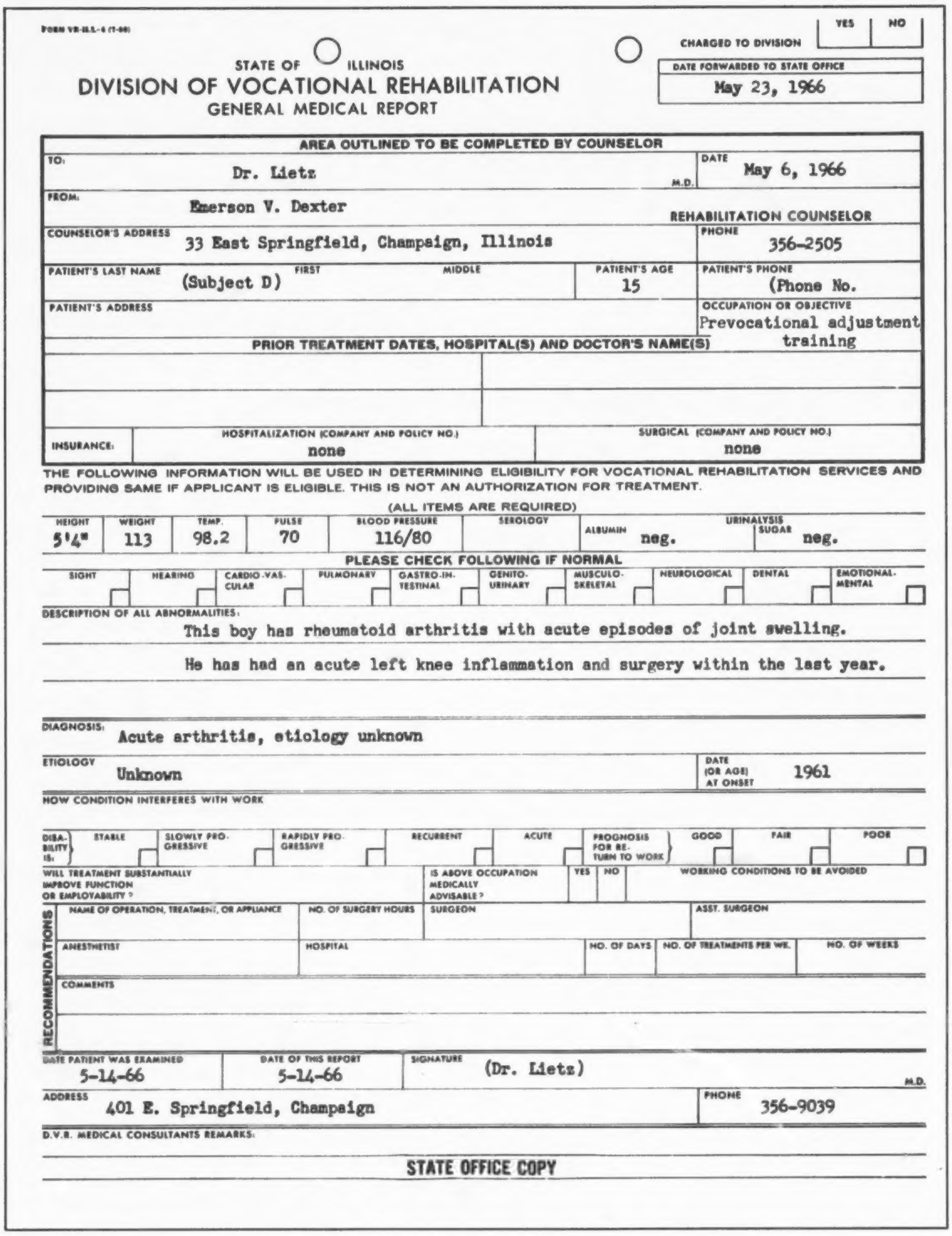
WORK HISTORY

EMPLOYED BY	JOB TITLE	EARNINGS	DATES EMPLOYED MO.	YR.	TO MO.	YR.	REASON FOR LEAVING

MAJOR DISABLING CONDITION: (IF VISUAL INCLUDE SNELLEN NOTATION IF HEARING DEFECT INCLUDE DECIBEL & % LOSS)
CODE
PRIMARY CAUSE NAME OF DISEASE OR OTHER CAUSE
CODE
SECONDARY DISABILITY
CODE
MOBILITY AT ACCEPTANCE 1. HOUSEBOUND ☐ 2. OUTSIDE WITH HELP ☐ 3. OUTSIDE WITHOUT HELP ☐

from Champaign Community Schools and other data were gathered by the research team and the college students.

It was mentioned in the Procedures section of this report that the parental



FORM VR-ILL-[illegible]

CHARGED TO DIVISION YES ☐ NO ☐

STATE OF ILLINOIS

DIVISION OF VOCATIONAL REHABILITATION

GENERAL MEDICAL REPORT

DATE FORWARDED TO STATE OFFICE May 23, 1966

AREA OUTLINED TO BE COMPLETED BY COUNSELOR

TO: Dr. Lietz M.D.

DATE May 6, 1966

FROM: Emerson V. Dexter REHABILITATION COUNSELOR

COUNSELOR'S ADDRESS 33 East Springfield, Champaign, Illinois

PHONE 356-2505

PATIENT'S LAST NAME FIRST MIDDLE (Subject D)

PATIENT'S AGE 15

PATIENT'S PHONE (Phone No.

PATIENT'S ADDRESS

OCCUPATION OR OBJECTIVE Prevocational adjustment training

PRIOR TREATMENT DATES, HOSPITAL(S) AND DOCTOR'S NAME(S)

INSURANCE: HOSPITALIZATION (COMPANY AND POLICY NO.) none

SURGICAL (COMPANY AND POLICY NO.) none

THE FOLLOWING INFORMATION WILL BE USED IN DETERMINING ELIGIBILITY FOR VOCATIONAL REHABILITATION SERVICES AND PROVIDING SAME IF APPLICANT IS ELIGIBLE. THIS IS NOT AN AUTHORIZATION FOR TREATMENT.

(ALL ITEMS ARE REQUIRED)

HEIGHT	WEIGHT	TEMP.	PULSE	BLOOD PRESSURE	SEROLOGY	URINALYSIS ALBUMIN	URINALYSIS SUGAR
5'4"	113	98.2	70	116/80		neg.	neg.

PLEASE CHECK FOLLOWING IF NORMAL

SIGHT ☐ HEARING ☐ CARDIO-VASCULAR ☐ PULMONARY ☐ GASTRO-INTESTINAL ☐ GENITO-URINARY ☐ MUSCULO-SKELETAL ☐ NEUROLOGICAL ☐ DENTAL ☐ EMOTIONAL-MENTAL ☐

DESCRIPTION OF ALL ABNORMALITIES: This boy has rheumatoid arthritis with acute episodes of joint swelling.

He has had an acute left knee inflammation and surgery within the last year.

DIAGNOSIS: Acute arthritis, etiology unknown

ETIOLOGY Unknown

DATE (OR AGE) AT ONSET 1961

HOW CONDITION INTERFERES WITH WORK

DISABILITY IS: STABLE ☐ SLOWLY PROGRESSIVE ☐ RAPIDLY PROGRESSIVE ☐ RECURRENT ☐ ACUTE ☐

PROGNOSIS FOR RETURN TO WORK: GOOD ☐ FAIR ☐ POOR ☐

WILL TREATMENT SUBSTANTIALLY IMPROVE FUNCTION OR EMPLOYABILITY ?

IS ABOVE OCCUPATION MEDICALLY ADVISABLE ? YES NO

WORKING CONDITIONS TO BE AVOIDED

RECOMMENDATIONS

NAME OF OPERATION, TREATMENT, OR APPLIANCE

NO. OF SURGERY HOURS

SURGEON

ASST. SURGEON

ANESTHETIST

HOSPITAL

NO. OF DAYS

NO. OF TREATMENTS PER WK.

NO. OF WEEKS

COMMENTS

DATE PATIENT WAS EXAMINED 5-14-66

DATE OF THIS REPORT 5-14-66

SIGNATURE (Dr. Lietz) M.D.

ADDRESS 401 E. Springfield, Champaign

PHONE 356-9039

D.V.R. MEDICAL CONSULTANTS REMARKS:

STATE OFFICE COPY

interview form was developed by one of the research assistants and used in each of the home visitations. This record was then added to each O. E. student's cumulative file folder as illustrated herein.

The form entitled "Develop a Typical Daily Schedule" was developed by another research assistant on the research team. This form was filled out by one of the teachers in training in an interview with an O. E. student on his team. The interviews were held during regularly scheduled shop periods but were conducted in private interview booths just outside the laboratory. The average length of these interviews was two hours.

PSYCHOLOGICAL REPORT
10-15-65

NAME: (Subject D)
B. D.: 4-1-1951
C. A.: 14-6
SCHOOL: Franklin Junior High School
GRADE: Eight

TECHNIQUES UTILIZED: Illinois Test of Psycholinguistic Abilities
Wide Range Achievement Test
Durrell Analysis of Reading Difficulty
Auditory Discrimination Test
Bender Gestalt Visual-Motor Test
Draw-a-Person Test
Rosensweig Picture Frustration Test
Incomplete Sentence Test
Interview

REASON FOR REFERRAL:

Subject D was referred for psychological testing because of his inability to do work assigned at his grade level. Past evaluations indicate that he is a slow learner and has had certain emotional problems connected with physical disability, the death of a father, and an overly protective mother.

BACKGROUND INFORMATION:

Subject D comes from a home of average socioeconomic status. According to him the father died of cancer in 1961 after a long illness. There are two elder sisters who are married and live in Champaign. Even before the father's death, the mother apparently was quite protective with him. After the father's death this over-protection became even more pronounced and has resulted in her blaming the school for his poor progress. Subject D has had the services of a school counselor and social worker for the past four or five years. At times progress was evident from the improved attitude of the parent and greater maturity on the part of Subject D.

This boy has had considerable concern and suffering as a result of rheumatoid arthritis which affected the joints of one foot and knee. After being seen at clinics, participating in physical therapy, and using crutches, the condition now appears to be arrested. No other parts of his body were affected by the arthritis. He reports that he now experiences pain only occasionally and that he can walk and stand without pain. He rides his bicycle much and worked last summer peddling an ice-cream cart over town. He lives eight blocks from school and rides a bus daily to and from school. On July 21, 1965, his family doctor, Dr. ...., recommended that he attend regular classes and have physical education curtailed. He stated that he saw no reason for special classes unless his medical status changed drastically.

School history revealed that Subject D attended Switzer School for seven years, two of which were spent in the first grade. He was assigned to the sixth and seventh grades. In sixth grade he made D's in reading, spelling, and language and C's in arithmetic and social studies. In grade seven his final grades were D's in English, mathematics, science, and music, with an F in social studies and a C in art. A parent conference on May 27, 1965, discussed topics including these:

1. His work was not satisfactory and seemed to be worse during the second semester.
2. He was not finishing his work. He gave many excuses and promised to do better, but only temporarily sustained his motivation to improve.
3. He ducks extra work or staying after school, using as an excuse that he must ride on the special education bus in order to get home.

4. He follows troublemakers and gets into mischief.

One result of this conference was the decision that Subject D would stay after school for special help two nights each week for the remainder of the school year. It was reported at this time that Mrs. . . . .(mother) was trying to avoid guilt by blaming the school for his learning problems. It was pointed out to her that she had been contacted several times during the school year and that she had not responded by seeing his teacher.

In the past Subject D's teachers have reported that he has demanded considerable attention in the classroom. As a result of this special attention some progress was reported, but little evidence of progress remained when he again became a member of the regular class group.

PREVIOUS TEST RESULTS:

The Stanford-Binet Intelligence Scale was administered in March of 1958. He then had a chronological age of 7-0, a mental age of 6-0, and an IQ of 87. The Wechsler Intelligence Scale for Children was administered in July of 1962 and yielded a Verbal IQ of 85, a Performance IQ of 89, and a Full Scale IQ of 89. On April 30, 1963, psychological examination by a Champaign school psychologist reported a Stanford-Binet IQ of 85. The Performance Scale of the WISC was administered at this time and yielded an IQ of 101. Conclusions at this time were that he continue in a class for mentally handicapped children and that a male teacher would be preferable if one was available.

DISCUSSION OF PRESENT FINDINGS:

Subject D was compliant and had fair motivation for testing. He had come to expect psychological testing regularly and seemed to settle down quickly to the task at hand. He was not overly interested in achieving on the tests; however, he seemed to enjoy the attention given him, as well as the chance to get out of regular school work. After testing was finished he was not anxious to leave.

The Illinois Test of Psycholinguistic Abilities disclosed certain weaknesses that could account for some of Subject D's past learning problems. He displayed poor ability to associate in the auditory-vocal and visual-motor areas. He finds it difficult to draw relationships between ideas that are presented through visual and auditory channels. This deficient skill in association is no doubt partially to blame for his inability to profit to a maximum degree from regular classroom teaching. He is also particularly weak in auditory vocal sequential recall of numbers. Sequential memory is involved in remembering things presented in a specific order, such as exact directions for a task. This weakness, when combined with poor auditory association, creates an additional learning handicap, since memory learning through auditory channels is therefore limited. The Wepman Auditory Discrimination Test disclosed no major problem in the discrimination of sounds.

On the Wide Range Achievement Test Subject D is reading at about the fourth-grade level. This result is also borne out by the Durrell Analysis of Reading Difficulty. His reading expectancy is at about sixth grade, hence he is reading about two years below what is expected. His instructional level is at upper fourth- or lower fifth-grade level, and the frustration level is reached at upper fifth-grade material. Comprehension drops sharply as he goes into fifth-grade reading matter. Mistakes are varied. There are several omissions, repetitions, and substitutions. He seems able to attack larger words with some phonetic skill, however his sight vocabulary is weak. His arithmetic skill is slightly below fifth-grade level. He cannot multiply where the multiplier has more than one digit and does not know all of his multiplication tables. He cannot work with fractions above very simple addition problems.

There is evidence of dependency feelings with the possibility of some associated hostility. After the death of his father, the mother apparently encouraged him to have an undue degree of dependence upon her. She became overly protective and excuses were made for him when he failed. His normal reaction patterns are now for him to lean on others when he is faced with conflicting situations. He is usually rather passive and not prone to accept responsibility. He hopes for an education, a good job, plenty of money, and all that goes with it; however, he seems to expect these things to be given to him with little effort on his part. He appears to be approaching the stage where he realizes that the dependency build-up over the years is not sufficient for the increasing demands of his world. It is not surprising then that he should begin to resent and become hostile to the source of his present state of dependency. It is probable that ambiguous feelings are present toward his mother. These might be expected to increase as he faces further conflicts and has a greater desire for more independence in the future. He is an anxious individual who becomes easily upset. For instance, he stated that he could not bear for someone to sit and tap his pencil on the desk. This nervous disposition might partially account for habits such as constantly fingering rubber bands, pencils, and paper clips, as reported on the referral form.

SUMMARY AND RECOMMENDATIONS:

This fourteen-and-a-half-year-old Caucasian boy was referred because of inability to do work at his assigned eighth grade. He was referred for psychological evaluation at least three times in the past. From early school he has had difficulty in learning basic academic skills. The onset of rheumatoid arthritis, the death of his father, and the subsequent dependency fostered by the mother have combined to further hinder his progress in learning. Weaknesses in the associative process involved in learning are also present. Since Subject D's learning problems have had much attention in the past, and since he has certain associative and memory impairment, the prognosis for much improvement is not good. This is especially true in view of the past and present overprotection and emotional dependency which have resulted in poor motivation.

The following recommendations are given:

1. Future instructions should take into consideration his below average associative and poor auditory sequential memory skills. The teacher must necessarily give close attention to Subject D to see that he gets the lessons assigned. Close follow-up is needed to see that he understands directions and makes the right start. Since motivation is rather poor, supervision will be imperative in helping him overcome the tendency to give up easily.

2. Placement in the Occupational Exploration Program is recommended. Subject D is now fourteen years of age and has had much attention given to his problems in the past. Since he has not progressed above fourth- or fifth-grade levels in basic academic areas thus far, it is not likely that he will do much better henceforth. Chief emphasis should probably be placed on helping discover any abilities which can later be utilized in training for a vocation. Training for mathematics, reading, and language skills should be provided along with O. E. training in a context which will make them more meaningful and applicable.

3. The services of a social worker will be helpful in seeing that the mother has a realistic outlook regarding Subject D's future. The supervision of this worker might also be needed in convincing the mother of the advisability of the change from regular course work to the Occupational Exploration program.

(Signature)
Charles R. White
Intern School Psychologist

Approved by: (Signature)
Willis Wright
School Psychologist

Staffing date: 10-20-65
Participants: Psychologists, teachers, building principal, social worker, counselor, director of special program
Classification: O.E./L.H.

CHAMPAIGN COMMUNITY UNIT SCHOOLS

Psychological Addendum, 6-14-66

NAME: (Subject D) SCHOOL: Franklin Junior High
B.D.: 4-1-51 GRADE: Eight
C.A.: 15 years, 2 months

Subject D's adjustment to school is reviewed for purposes of determining the extent of need for special programming and assistance. His level of intellectual functioning indicates low average learning potential. This inference is drawn from psychological data collected on 10-15-65. He also suffers from rheumatoid arthritis and is under the care of a physician. His physically handicapping condition has been detrimental to his school adjustment. His physical condition along with his learning problem are contributing an appreciable extent to social maladjustment. A special vocationally oriented program is considered necessary for him along with available services from the Division of Vocational Rehabilitation.

(Signature)
Julius W. Gaines, Jr.
School Psychologist

Classification: O. E.

CASE CONFERENCE

NAME OF CHILD: (Subject D)
SCHOOL: Franklin
TEACHER:
DATE OF STAFFING: 10-26-65
PERSONS ATTENDING CONFERENCE:

Stanley Campbell
Willis Wright
Duane Speer
Robert Stoneburner
Charles White
Patricia Tibbetts
John Dobson
Jean Gover
Patricia Wilson
LaVern Barkham
Mel Ktizing
Connie Black
Lucille Joyner
Audrey Gray
Pauline Randolph
Neil MacGregor

REASON FOR REFERRAL:
Inability to do work at grade level.

TEACHER'S SUMMARY OF CHILD'S ADJUSTMENT:
Science: Was only in class a short while—turns in only a few assignments.
History: Reading stops him—can't write—failing—class picks on him.
Mathematics: Now is no trouble in class, but was formerly. Complete lack of understanding in some areas of math.
Reading: Can read but does so poorly.

SUMMARY OF SCHOOL SOCIAL WORKER'S CONTACT WITH THE CHILD AND FAMILY:
Has been seen by two social workers in past.
Reasons: Had been retained in grade 1—needs help in adjustment.
Again in fifth grade. At present he refuses social worker's contact.

SUMMARY OF SCHOOL NURSE'S REPORT:

SUMMARY OF REPORT BY SPEECH CORRECTIONIST:

SUMMARY OF REPORT GIVEN BY PSYCHOLOGIST:
10-15-65 IQ 85
Father died of cancer—1961—Mother very protective both before and now after husband's death. Has had services of social worker and counselor for past several years. He is suffering from rheumatoid arthritis. Family doctor recommends regular classes. He ducks extra work—Mother has cooperated somewhat in providing transportation.

ADDITIONAL INFORMATION:
Weakness: Poor auditory sequential recall.
ITPA: Poor ability to see relationships between auditory and vocal. Would affect him in following directions. Reading level fourth grade.
Normal reaction pattern: Leans on other people—dependent. Nervous, anxious.

RECOMMENDATIONS AND DECISIONS, AND PERSONS RESPONSIBLE FOR CARRYING OUT DECISIONS:

1. Is eligible for L. H. Services (Mrs. Bustard, Miss Gover).
2. Is eligible for O. E. Program (Mr. MacGregor).
3. Home visitation (Mr. MacGregor).

(Signature)
Mr. MacGregor
12-17-65

INTERVIEW RECORD

Subject D
Student's Name

Date and Counselor	Interview
2-15-66	Subject D participated in a group of three meetings to discuss problems about jobs and how to get them. He took an active part. He is very concerned about finding work at the present time. He left the meeting with a strong desire to find employment right away.
5-23-66	Subject D was told about the chance of working for the schools this summer. He was ready to go immediately. He objected to nothing, nor did he ask any questions. The possibility of the job, any job, was uppermost in his mind.
6-20-66	I stopped to check on the recent placement of Subject D. His supervisor says he fails to take his work seriously. He spends a good deal of time talking and exploring the building. He denied these things and claimed to be doing what he was told. He was unable to accept any faults with his work and blamed his boss. He gives indication of being in need of closer supervision. He is very immature in his work habits and attitudes. He tires easily and is distracted easily.
1-10-66	I talked with Subject D about the O. E. program, the prevocation counselors' role and the D.V.R. program was also interpreted. He indicated a desire for our services. He is uncertain as to what he wants to do.

DIRECTIONS TO THE INTERVIEWER:

July 14, 1966

The following interview is to be conducted in the OE's home after an appointment has been obtained. "I would like to share with you what your son is doing in the shop program and I would like to discuss this with you. May I see you . . . ."

Be punctual; be warm and outgoing to the parent. Try to set the parent at ease before you start writing. Discuss what her/his son is doing in shop, closed circuit TV, projects, etc. Let the parent know that you are genuinely interested in the student and that your desire and the desire of the program is to help the student to achieve success in school, and after terminating school to find successful employment.

The purpose of this interview is to help us see the student in a total picture. This interview should not last more than 40 minutes. If longer, the parent(s) and you may become distracted and exhibit boredom.

On the board in room 42, check off the student you have interviewed and place interview sheet in student's cumulative folder. A parent should be interviewed with this form only once.

Good luck.

PARENTAL INTERVIEW FOR O. E. STUDENT IN VOTEC SUMMER RESEARCH PROJECT

Name of O. E. pupil (SUBJECT D) Team No. TEAM NO. 1

Parent (Guardian) interviewed (Mother of Subject D)

1. What special interests and abilities does O. E. pupil have? model cars
2. What does he think of school (Champaign)? doesn't say
3. What does he think of his school shop classes (Champaign)? generally so, likes it
4. Has he brought any projects home from class (Champaign)? yes
(University of Illinois)? yes
Examples cold chisel only one given, couldn't remember any others
5. School subjects liked shop class
6. School subjects disliked math - spelling

7. Attitude toward teachers some good; some bad

8. Is he satisfied with his progress in school? no

9. How does he get along with other members of the family?

Parents pretty good Sisters fair Brothers none

10. How does he get along with other young people in his neighborhood and community? yes, fine

11. How does he respond when successful in some endeavor? mother seemed to think that no particular response can be noted

12. How does he respond when failing in some endeavor or activity? same as above

13. Is he ever praised for his efforts? yes

How? verbally

14. For what specific activity is he usually praised? things brought home from school

15. What form of discipline is used? take something away from him

How often? when needed

16. What is his response when such discipline is used? sulks short time

17. Have you encouraged him to continue school? yes

Why? needs diploma for gainful employment

18. What are the most successful ways used in guiding him? didn't know exactly, just get it to get a job

19. What specific chores does he have to do around the home? mows the yard, cleans garage

20. Which of these jobs at home does he do best? no difference

21. Which does he find the most difficult? none

22. Has he had any health problems which might cause difficulties? arthritis, knee and ankle

Any accidents? no

23. In what leisure time activity does he participate? baseball in the neighborhood

24. Hobbies coin collection, fish

25. Clubs none at present

26. Reading and study very little - mostly TV

27. Activities in which the whole family participate drive-in movie on occasion—expressed no time because of her job

28. What, in the parent's opinion, is the chief cause of the pupil's problem? doesn't have any idea

29. What suggestions does the parent have for helping the pupil? didn't have any objectives or suggestions whatsoever

30. What will the parents do to cooperate? she will do anything to help in his adjustments

Comments:
(Back of page may be used for additional notes.)

Date 7-28-66

Interviewer Bill Marks

NAME SUBJECT D

SCHOOL FRANKLIN

GRADE	SUBJECTS																
	Reading	Writing	Language	Reading Level	Arithmetic	Social Studies	Music	Drawing	Physical Education	Spelling	Geography	Science	English	Art	Shop	Remedial	Prevocational
RETAINED 1st	F C	C Ex	C C	RR 1^2	C B	B	C S	C S	S								
2nd	D	S	D	3′	C	C	S	S	S	D	D	C					
3rd	D	S	D	4′	C	C	S	S	S	D	D	C					
4th	D	S	D	5′	C	D	S	S	S	D		D					
5th	—	S	F	6′	F	F	S	S	E	D		F					
6th	D	S	D	—	C	C	S	E	S	D		C					
7th					D	F	D					D	D	C			
8th	D				F	F							F		D	D	D
9th																	
10th																	

DEVELOP A TYPICAL DAILY SCHEDULE

Let the student know that you are going to try and piece together a schedule of the activities which he typically undertakes during his day. You will ask such things as when, where, with whom, and for how long he works, attends school, eats, sleeps, plays, etc. Tell the student that you will find most of this information in the process of asking less direct questions and that the end of the interview will be used to pick up the gaps. The interviewer should be keeping a schedule as he proceeds in addition to the recording of responses to the specified questions.

Interests and Abilities

1. What are some things which you feel you can do better than a good many of your immediate friends? **nothing I can think of**

2. What kinds of things do you wind up doing for fun (leisure) when you have a chance to do what you really want to do? **bike ride, sleep, rest**

3. Are you a fan or participant in any particular sport? **fan**
   a. Why not?
   b. Which ones? **bike racing**
      (1) Determine degree of interest and involvement. **I'm the fastest in the neighborhood**
      (2) Determine type of involvement, i.e., fan, spectator, player, combination. **player**

4. What special day(s) or occasion(s) do you look forward to which are not part of your average week? **payday, birthday, Christmas (you get stuff)**

5. What is the pleasant time of your ordinary day? **evening, watch TV**

6. What kinds of movies do you like? **war movies, science fiction**
How often do you go? **once a week**
With whom do you go? **either alone or with a couple of boy friends**

7. Do you watch much TV? **yes** If so, how much? **5 hours**
What are your favorite programs? **"I Spy," "Run for Your Life," "Batman"**

8. What do you consider your major recreational pastime? (in terms of time) **watching TV**

Social

9. Are your pastimes generally social or do you prefer to be alone? **alone**

10. Who do you regard as your closest friends, people you would turn to for help or fun? **my mom**

11. What groups do you belong to? (Explain the nature of the group) **bicycle club**

12. How do you get along in your (different) groups? **I like my friends in the club**

13. Do you feel that you are generally a leader or a follower? **sometimes a little of both**

14. Do you have a girl that you are interested in? **no**

Economic

15. How much money do you generally spend during the week? (or daily) **fifty cents to a dollar**

16. Do you ordinarily have some money on you for buying small items of interest to you (cigarettes, candy bars, etc.)? How much? **twenty-five cents**

17. Do you have any savings? **$75.00**

18. What kinds of things do you usually buy with the money you can spend on yourself? **shows, clothes**

19. Do you feel that you have enough money to buy the school materials (such as books, fees, etc.) that you are asked to get from time to time? **yes, Mom helps me with it**
   a. What happens if you don't? **work, or take it out of bank**
   b. How do you feel about this situation? **don't feel like asking Mom for money**

Identifications

20. Do you particularly want to be like any of the people you know well? Who? **Red Skelton**

21. Have you any desire to be like anyone you've seen on TV? Who? **Red Skelton**

22. Is there any historical person you particularly admire? Who? **Abraham Lincoln**

Educational Personnel and Practices

23. Have you ever liked a particular teacher? **nope**
    a. If so, which one did you like most? **——**
    b. What was there about this teacher that made you like him or her? **——**

24. Do you feel that most of your teachers like you? **I guess so**
    a. Do you feel that most of them dislike you? **no**
    b. Why? **I want them to like me**

25. If you were a teacher and had to teach a group of boys much like yourself, what kinds of changes would you make in the way you conducted classes? **don't want to be a teacher**

26. If you were a principal, what kinds of changes would you make regarding school policy? **change tardy rules**

27. What aspects of school do you like most (or dislike least)? **math**

28. What activities did you like most in the subjects you had last semester?
What activities did you like least in the subjects you had last semester?

Subjects	Activities liked	Activities disliked
math	**teachers' helper**	

Vocation and School

29. What kinds of jobs have you had? **none other than working here; I could have worked at Burger Chef but I chose here**

30. What aspects of these jobs did you find interesting and enjoyable? **working with the projects and I like the kids**

31. What kind of job would you like when you graduate? **I would like to teach industrial arts**

32. Would you prefer a school program which prepared you specifically for this job? **yes**

33. Do you think you would prefer in-school occupational preparation (like day trade) or a work-study program? (explain) **in-school occupational preparation**

34. Would you rather have an industrial arts program than either of the above? Why? **yes, like shop class**

35. What job would you like to have five years from the time you graduate? **fireman**

Learning Style

Orient the student regarding the purpose of this series of questions, the importance of learning styles and their individuality. Then perhaps say: "Try to think of times, either in school or out of school, when you had the feeling that you really learned something you tried to learn—you applied yourself and got something out of it."

36. In times such as these, was the experience one of
    a. seeing (if so, which kind)
        (1) reading and descriptions or explanations **studied Constitution test**
        (2) looking at drawings or diagrams **no**
    b. listening and speaking such as a talk, conversation, or discussion
    c. doing things such as working with objects, making things, taking things apart. (select one, then rank order)

37. Do you feel that you learn equally well by more than one of the above methods? Which ones? **study and read**

38. Do you feel that you generally learn fast or slow? **slow**
Which one of the above types seems to result in the quickest learning? **fast**

39. Do you learn better if you know you are going to be tested? **yes**

40. Do you learn better if you are given some kind of deadline? **yes**

41. Do you think you would learn better in the absence of report cards and grades? **No**

42. Do you learn better in classroom games (competition) than regular lessons? **yes**

3

43. Do you need to know all of the facts before you can really start a school assignment or are you able to work when the assignment is somewhat unclear? **yes; no**

44. Do you like to have breaks or would you rather work straight through until you finish the work you started? **like to have breaks**

45. Do you learn written (printed) material better by thumbing through it (scanning) before reading it or do you prefer to read it without some kind of overview? **thumbing through it**

46. Do you find that it takes you a long time to "warm up" to doing work on an assignment or are you able to start right in and make immediate progress on it? **start right in and make immediate progress**

47. Do you prefer to sit where you please or to be told to sit in a particular place (e.g., alphabetically)? **where you please**

48. Would you rather be taught in a small group or as part of a large class? **small group**

49. Do you like to sit in rows or in a large semicircle? **semicircle**

50. Do you prefer to study in a very quiet place or do you like a certain amount or kind of background noise? **background noise**

51. Do you like to work in a warm or a cool place? **cool place**

52. Are you able to study in class when time is given for study? **no**

53. Do you study better at home than in class? Why? **yes, get more time**

54. How do you generally feel toward homework? **half-way between ratings of bad and good**

55. Do you ordinarily try to do homework assignments? Why? **yes, try to get them done otherwise I might flunk**

The interviewer should probe study routines, if applicable. Try to fill out periods of the day which seem unaccounted for. If the student has any inclination to study at home but seems to fail, determine conditions in the home such as: size of family, traffic, congestion, privacy, home duties, general atmosphere, etc.

DAILY SCHEDULE

Time	Activity	Where	With Whom	Duration
8:00	breakfast	kitchen	mom	summer
8:30	work	Dr. Howard School	janitor	
↓				
12:00	lunch,	University of Illinois	O. E.	
↓	work—shop	University of Illinois	O. E.	
4:00				
5:00	sleep	home		
5:30	eat	home	mother	
6:30	bike riding and fishing	Crystal Lake	himself	
8:00	TV	home	self	
10:00	bed	home		

EXIT INTERVIEWS—O. E. STUDENTS

During the final week of the research project, the O. E. students who had participated in the project were interviewed by the college students to assess their attitudes toward the project and toward specific experiences they had during the project.

A preestablished interview form was used by the teachers when conducting the interviews. (See page 122.) Each teacher had received previous instruction on how to conduct the interview.

Scheduling for the interviews was established by the project director at

O. E. STUDENT EXIT INTERVIEW FORM

O. E. Student ______________________________
Last First

Interviewer ______________________________
Last First

Date ______________________________

Directions: Be sure tape recorder is working. Say into the tape recorder "**Exit interview for O. E. student**__________ **by**__________ **interviewer. Date** ______."

Put an x in one box **after** the student has finished talking about each interview question.

☐ Loaf ☐ Unskilled ☐ Skilled	1. What would you have done this summer if you hadn't been invited into our program?
☐ Keep in school ☐ Learn about jobs ☐ Subjects for teacher training ☐ Other	2. What do you think was the basic purpose of our summer program?
☐ Positive ☐ Negative	3. Why do you think **you** were chosen instead of another O. E.?
☐ Positive ☐ Negative	4. What would **you** have done differently if you could turn back the clock and relive our summer program?
☐ Positive ☐ Negative	5. What are your feelings about the TV cameras?
☐ Hand tool ☐ Power machine	6. What tool or machine did you most enjoy using this summer?
☐ Hand tool ☐ Power machine	7. What tool or machine did you least enjoy using this summer?
☐ Positive ☐ Negative	8. Describe each of the other O. E.'s in your team. O. E. ______________ Last First
☐ Positive ☐ Negative	O. E. ______________ Last First
☐ Positive ☐ Negative	O. E. ______________ Last First
☐ Positive ☐ Negative	O. E. ______________ Last First
☐ Positive ☐ Negative	O. E. ______________ Last First
☐ Positive ☐ Negative	9. Describe the Lab. Aide in your team.

O. E. STUDENT EXIT INTERVIEW FORM (continued)

	10. Describe your two team teachers.
☐ Positive ☐ Negative	Teacher ______________________ Last First
☐ Positive ☐ Negative	Teacher ______________________ Last First
☐ Positive ☐ Negative	11. Describe Dr. Tinkham and Dr. Campbell. Dr. Tinkham
☐ Positive ☐ Negative	Dr. Campbell
☐ Positive ☐ Negative	12. Would you recommend this program to your friends? Why?
☐ Positive ☐ Negative	13. Would you participate in a program like this next summer if you were invited? Give the **main** reason for your answer.
☐ Money ☐ Learning ☐ Other	
☐ Positive ☐ Negative	14. Would you if there was no pay involved?
☐ People ☐ Materials	15. What do you feel is the greatest **weakness** of our summer program?
☐ People ☐ Materials	16. What do you feel is the greatest **strength** of our summer program?
☐ None ☐ Few ☐ Many	17. a) What did you learn in our program this summer which might help you get a job in the future?
☐ First ☐ Middle ☐ Last	b) When did this happen? (weeks)
☐ Industrial or shop ☐ Other ☐ None	18. As a result of our summer project, have you changed any of your ideas regarding the **type** of work you want to do for the rest of your life? Explain.
☐ Answer	19. The last item is to describe in **one word** our total summer program.
☐ Immediate ☐ Delayed	

the convenience of the teachers in training, the students in the graduate curriculum class, and the O. E. students. Free transportation by taxicab was provided for each O. E. student to and from the laboratory.

The Industrial Education Laboratory was used as the place for the interviews. Stations were established in various areas of the laboratory in such a manner that several interviews could be conducted simultaneously. Each station was provided with a tape recorder, interview forms, and chairs.

An earlier review of the students' records had reflected low reading ability and poor comprehension; therefore the questions were submitted orally, and in some cases the statements were rephrased to insure better student comprehension.

The research team undertook the task of finding pertinent information relating to the research project through a study of the exit interviews. The approach included a random sample check to determine whether the original interviewers interpreted the O. E. students' responses similar to that of the research team. Five members of the research team, as a group, listened to five recorded O. E. exit interviews and checked the boxes provided before each item. A group consensus was arrived at by charting these on a blackboard. This blackboard chart was then compared with the boxes checked by the original interviewer while he was conducting the taped exit interview. A reliability of over 98 percent was obtained. The next step was to compile a chart of all the given responses categorized by the original interviewers and to tabulate percentages of responses. The total *number* of O. E. student responses placed in each category and the *percentage* appears in the analysis of each item of the O. E. exit interviews which will be presented shortly.

Having collected the student responses from the interview forms, the research team then monitored the tapes in search of key words reflecting the extremes of the responses given and determining whether the O. E. student was providing meaningful data through his responses.

The research team then critically assessed the questions on the form to determine if they provided the information needed and if the questions were within the comprehension of the O. E. student.

1. *What would you have done this summer if you hadn't been invited into our program?* Loaf—8 (34 percent); unskilled—13 (57 percent); skilled—2 (9 percent).

The large percentage of students classified under the general category of loaf responded in the following ways: "play basketball," "build models," "sit around and loaf," "have fun," "rest," and "don't know."

Types of summer employment at which the student felt he would have been employed included areas such as the following: markets—stocking shelves and carryouts; food service—busboy, carhop, and sales; and warehouse work.

2. *What do you think was the basic purpose of our summer program?* Keep in school—1 (4 percent); learn about jobs—17 (74 percent); subjects for teacher training—2 (9 percent); other—3 (13 percent).

From the analysis of the tapes the great majority of students felt the main purpose of the program was to learn about jobs, with a few students expressing such objectives as "keep out of trouble and give us something to do," and "get us a job and keep us out of the house." Thus the vast majority of students saw the summer program as very vocationally oriented.

3. *Why do you think* you *were chosen instead of another O. E.?* Positive—13 (57 percent); negative—7 (30 percent); no response—3 (13 percent).

In the opinion of the research team, this was an invalid question. From the tapes many insignificant answers were found. It was the opinion of the research team that "O. E." should be deleted from the question. The statement was discarded because it did not include the great majority of students outside the Occupational Exploration Program.

4. *What would you have done differently if you could turn back the clock and relive our summer program?* Positive—14 (60 percent); negative—6 (27 percent); no response—3 (13 percent).

The majority of the students expressed a favorable opinion toward the program as it was conducted. One student commented that if he could turn back the clock he would "work harder and not get mad" and another student would have "made more things."

5. *What are your feelings about the TV cameras?* Positive—11 (48 percent); negative—8 (35 percent); no response—4 (17 percent).

The majority of answers were on the positive side, although the statistics reflect a relatively high negative response to the TV cameras. It should be noted that many of the negative responses made reference to the filming of the O. E. students during their lunch period. One student who was favorable to the cameras felt the filming of the activities would "let others see what we do."

6. *What tool or machine did you most enjoy using this summer?* Hand tool—2 (9 percent); power machine—20 (87 percent); no response—1 (4 percent).

The O. E. students' responses made reference to a particular machine. The interviewer was asked to make reference to a broad classification. Note that *almost all* specific tools or machines which they mentioned as "most enjoyed during this summer" were powerized.

7. *What tool or machine did you least enjoy using this summer?* Hand tool—10 (42 percent); power machine—7 (31 percent); no response—6 (27 percent).

The O. E.'s who responded are about evenly divided between hand and power tools as those they least enjoyed using this summer. It is important to note that over one-quarter of the O. E.'s could not name a hand tool or power machine which they least enjoyed using this summer. It would appear that these students liked all the tools and machines available for them to use. This high percentage of nonrespondents (27 percent) is quite different from the nonrespondents (4 percent) to item 6 covering the most enjoyable tool or machine.

8. *Describe each of the other O. E.'s on your team.* Positive—65 (71 percent); negative—25 (26 percent); no response—2 (3 percent).

Generally, the O. E. student gave favorable descriptions of the other members of his team with "He's ok" being the most common initial response. Other descriptive terms such as "mean," "too silly," "all right," "don't like," and "talks too much" were sometimes used.

9. *Describe the lab. aide on your team.* Positive—16 (70 percent); negative—4 (17 percent); no response—3 (13 percent).

It is significant that the O. E. students generally indicated a favorable response toward their lab. aide and accepted him as a member of the teaching team.

10. *Describe your two team teachers. Teacher A. Teacher B.* A: positive—18 (79 percent); negative—5 (21 percent); B: positive—19 (83 percent); negative—4 (17 per cent).

The results indicate that the vast majority of O. E. students described their team teachers in positive terms. Typical responses were "all right" and "good teacher."

11. *Describe Dr. Tinkham and Dr. Campbell.* Dr. Tinkham: positive—15 (70 percent); negative—5 (21 percent); no response—2 (9 percent). Dr. Campbell: positive—14 (60 percent); negative—8 (36 percent); no response—1 (4 percent).

A substantial majority of the O. E. students gave a positive description of Dr. Tinkham. The students also described the project director in basically positive terms. A few students mentioned that they thought his job was to set boundaries for them and keep the O. E.'s in line. Some of the negative comments were "strict," and "mean."

12. *Would you recommend this program to your friends? Why?* Positive—20 (87 percent); negative—3 (13 percent).

A substantial majority of the students would recommend the program to their friends primarily because of the money that could be made. Only two mentioned the opportunity to learn something in response to this item.

13. *Would you participate in a program like this next summer if you were invited?*

Give the main reason for your answer. Positive—17 (73 percent); negative—6 (27 percent). Money—7 (30 percent); learning—7 (30 percent); other—6 (27 percent); all—1 (4 percent); no response—2 (9 percent).

It should be noted that learning played as important a part as money in influencing positive responses toward the research project. Note how these results differ from those obtained on item 12.

14. *Would you if there was no pay involved?* Positive—8 (35 percent); negative—15 (65 percent).

A point of distinction was not made in this item between the morning work program and the afternoon program. Many students did make a distinction in their answers. The student could have interpreted that this question would mean he would not be paid for his morning work. Several students expressed a definite dislike for the morning work. To some students pay or money is an economic situation which they are forced to encounter. Several O. E. students said they would come in the afternoons for the shopwork but not in the mornings without pay.

15. *What do you feel is the greatest weakness of our summer program?* People—7 (30 percent); materials—4 (17 percent); no response—12 (53 percent).

From the data it was evident that 53 percent did not respond. It seemed to the research team that this could be attributed to the following: (1) Students expressed a feeling or stated a "no weakness" associated with the question; (2) the question seemed to be beyond the comprehension of the O. E. student.

Weaknesses which some students responded on were discipline and the other O. E. students. Several students expressed a strong interest in the afternoon program and a dislike for the morning work program.

With over one-half of the O. E. students not responding to this item and over one-fourth not responding to item 7 asking for the tool or machine they least enjoyed using, it may well be that these students thought very highly of the total experimental project. This is the definite feeling which the research team arrived at after listening to the tone of all the taped interviews, as the O. E. students had real difficulty in finding complaints with the program even when they were prodded.

16. *What do you feel is the greatest strength of our summer program?* People—6 (26 percent); materials—11 (48 percent); no response—6 (26 percent).

This question seemed to be beyond the comprehension of many O. E. students as it required an evaluation of the total project on the part of the student. The responses given included the following: "make stuff," "getting paid," and "work instead of loafing."

17. (a) *What did you learn in our program this summer which might help you get a*

job in the future? Little—14 (61 percent); much—7 (30 percent); no response—2 (9 percent).

(b) *When did this happen (weeks)?* First—5 (22 percent); middle—8 (35 percent); last—5 (22 percent); first-last—3 (13 percent); middle-last—1 (4 percent); no response—1 (4 percent).

The responses given were descriptive of a favorite area of experience explored by the student such as welding, masonry, carpentry, motor troubleshooting, and construction of various items. An interesting response by one student was "responsibility and being on time."

18. *As a result of our summer project, have you changed any of your ideas regarding the type of work you want to do for the rest of your life?* No—16 (70 percent); yes—7 (30 percent). *Explain.* Industrial or shop—12 (52 percent); other—1 (4 percent); none—9 (40 percent); no response—1 (4 percent).

Due to the short duration of the project, it might be unrealistic to expect a change in the student's future occupational selection which is a long-range goal. Some of the tapes reflected that his answer was based on a favorable experience he had encountered on a particular machine or area of work. Several interviewees also expressed their indecision toward a particular occupational selection.

19. *Describe in* one word *our total summer program.* Immediate—13 (58 percent); delayed—10 (42 percent).

Most of the descriptive words given were positive in nature. A very frequently used term was "fun." Other terms included "okay" and "great." Two extremes recorded were "crazy" and "educational."

From these exit interviews of the O. E. students, it would seem apparent that a larger percent of students would have held an unskilled job if they had not participated in the project and 24 percent of the boys would have been idle.

Seventy-four percent of the students felt that the basic purpose of the program was job orientation.

The majority of the students who responded reflected a positive reaction toward the TV cameras and were more favorable toward the power tools than they were toward the hand tools.

Generally the O. E. students had a positive reaction toward their laboratory aides and the team teachers as well as the project director and staff.

While 73 percent of the O. E. students would participate in a similar program another summer, only 35 percent would agree to participate if the pay incentive were removed. At the same time 87 percent of the students would recommend the current program to their friends.

Almost all of the O. E. students answered the questions on their exit interview very frankly and sincerely. This was based on the opinions of the interviewers and the answers and voice tones recorded on tape.

The summation of the entire program stated in one word by the students indicated a very favorable response toward the summer project as a whole.

One O. E. exit interview has been transcribed in its entirety to help the reader gain a better insight into a *typical student exit interview.*

SAMPLE O. E. EXIT INTERVIEW AS TRANSCRIBED FROM TAPE RECORDER

Exit interview for O. E. student T by Jim Oettel, Interviewer
Date: August 9, 1966

Interviewer: What would you have done this summer if you hadn't been invited into our program?
Student: Well, I probably wouldn't have done nothing.
Interviewer: What do you think was the basic purpose of our summer program?
Student: To give the kids something to do—maybe a little money or something—maybe the teachers a little something.
Interviewer: Why do you think you were chosen instead of another O. E.?
Student: I didn't hear the question.
Interviewer: Why do you think you were chosen instead of another O. E.?
Student: Well. . . .
Interviewer: Can't think of any particular reason?
Student: No.
Interviewer: What would you have done differently if you could turn back the clock and relive our summer program?
Student: Probably all of them.
Interviewer: You'd like to start all over again—how would you change? What would you do differently this time as far as yourself is concerned here? Start back at the beginning of the program, continue through—would your activity change, or would you do something differently, or do you think you'd do about the same thing you did this time?
Student: I'd probably do something different.
Interviewer: Why?
Student: Oh, instead of doing the same thing. . . .
Interviewer: I don't mean if we duplicate it—I'm talking about just in the program itself. I'm not talking about a new program, but on the basis of what you've done, is there anything you'd like to change if you were to relive it?
Student: No.
Interviewer: You think you'd do it pretty much the same?
Student: Yeah.
Interviewer: Were you satisfied with what you've done this summer?
Student: Yeah.
Interviewer: What are your feelings about the TV cameras?
Student: I guess they were ok.
Interviewer: Just ok? Didn't dislike them, or like them?
Student: No.
Interviewer: What tool or machine did you most enjoy using this summer?
Student: The welder.
Interviewer: What tool or machine did you least enjoy using this summer?
Student: I don't know. I didn't use that many tools. The arc welder—I didn't like it—I couldn't strike an arc.
Interviewer: Did you use any hand tools that you possibly disliked?
Student: The file—I didn't like it too much. That's all.
Interviewer: Well, which would you say you disliked the most? Which did you least enjoy? The arc welder or the file?

Student: The arc welder.

Interviewer: I'd like you to describe our two team teachers. What was your attitude and what did you think about Mr. Fuller?

Student: I thought he was pretty nice.

Interviewer: Did you like him or dislike him or....

Student: Yeah, I liked him.

Interviewer: Do you think he could have done better to help you?

Student: No, I think he did ok.

Interviewer: How about Mr. Shutters?

Student: I feel the same about him.

Interviewer: I'd like you to describe Dr. Tinkham. What's your attitude towards him?

Student: I thought he was ok—I didn't know him that well. Just whenever he stood up, that's the only time I ever talked to him.

Interviewer: Did he bother you at times?

Student: He never bothered me.

Interviewer: What about Dr. Campbell?

Student: He's ok.

Interviewer: What do you mean by ok?

Student: I didn't see him much either. They were kinda strict, you know. I don't see why I have to wear an apron—but other than that, he's ok.

Interviewer: Would you recommend this program to your friends?

Student: Yes.

Interviewer: Why?

Student: I thought it was pretty interesting.

Interviewer: What did you like about it? You said it was interesting—did you think the whole thing was interesting, or one part more than the other? Were you interested all the time?

Student: Yeah—it was pretty interesting.

Interviewer: Would you participate in a program like this next summer if you were invited?

Student: Yes.

Interviewer: Give the main reason for your answer.

Student: Cause I liked it, I guess. It was never boring—something always going on.

Interviewer: Did you like the activity—this idea of learning?

Student: Yeah.

Interviewer: Did you like this idea of getting paid?

Student: Yeah.

Interviewer: Is there any difference in the way you evaluate this—the money, the learning?

Student: The learning's pretty good.

Interviewer: Now, you said you'd be interested in another program like this. Would you if there was no pay involved?

Student: Maybe not as long.

Interviewer: So you think the length of it could be a little shorter if there was no pay?

Student: I mean like if I worked at the school in the morning and come here in the afternoon, I wouldn't like that too well. Maybe if I just come here three hours....

Interviewer: Would you like just coming here in the afternoon, not even working at the school?

Student: Yeah.

Interviewer: What do you feel is the greatest weakness in our summer program? The greatest weakness.

Student: I don't know.

Interviewer: Well, is there anything that we could have done better than what we did?

Student: No.

Interviewer: There must have been some area we could have improved on. Our way of presenting material. You don't think there's any area of weakness here.

Student: No.

Interviewer: How about our people then? You were actually involved with them—do you feel they did the job they should have? Do you think we had most of the materials and this sort of thing that we needed? You feel like all these were adequate?

Student: Yeah.

Interviewer: What do you feel is the greatest strength of our summer program? You know what I mean by this? The greatest strength? What is our best quality about this program?

Student: I think it was all pretty good. I liked the teachers pretty good.

Interviewer: What did you learn in our program this summer which might help you get a job in the future?

Student: I guess welding—did a lot of that.

Interviewer: Anything else?

Student: No.

Interviewer: When did this particular thing happen. Welding you did at the beginning, the end, the middle?

Student: About the middle.

Interviewer: As a result of our summer project, have you changed any of your idea regarding the type of work you want to do for the rest of your life?

Student: No.

Interviewer: What are you interested in now?

Student: Mechanics.

Interviewer: And you still have the same idea after the program this summer? You're still interested in mechanics?

Student: Yeah.

Interviewer: Describe each of the other O. E. students in your team. We'll start with Subject PP.

Student: He's ok—he's pretty nice—easy to get along with.

Interviewer: How about Subject Q?

Student: Well, I guess he was ok. I didn't see him much, but I liked him.

Interviewer: When you did see him, what was your reaction?

Student: I guess he's—well, I liked him.

Interviewer: Subject S.

Student: He's a pretty nice kid.

Interviewer: Did you like working with him?

Student: Yeah, I've been going to school with him since fourth grade.

Interviewer: So you two get along pretty well, I guess.

Student: Yeah.

Interviewer: Subject R.

Student: We didn't get along too good—he mouthed off a lot, but other than that, he's ok.

Interviewer: He mouthed off a little bit to you, did he? What about?

Student: Just something to say, I guess.

Interviewer: What was your reaction when he did this?

Student: Just ignored him.

Interviewer: Did he do any of this in the summer program?

Student: Did a little.

Interviewer: What did he mouth off about, anything in particular?

Student: Just mouthing off, I guess.

Interviewer: How about ———————— (name of lab aide)?

Student: I thought he was kinda slow—but other than that, he was a pretty nice kid.

Interviewer: What do you mean by slow?

Student: Oh—he seemed like he was half dead—that's what I thought about him. Other than that, he's a pretty nice kid—his attitude and everything.

Interviewer: Did he help or assist you in any way?

Student: He helped.

Interviewer: All right, now our last question we've got on here. The last item is describe in one word our total summer program.

Student: Pretty good.

LABORATORY AIDE EXIT INTERVIEW FORM

Laboratory Aide ______________________________
Last First

Interviewer ______________________________
Last First

Date ______________________________

Directions: Be sure tape recorder is working. Say into the tape recorder "**Exit interview for Lab. Aide** __________ **by**__________ **interviewer. Date** ______**.**"

Put an x in one box after the student has finished talking about each interview question.

Loaf	Unskilled	Skilled

1. What would you have done this summer if you hadn't been invited into our program?

Keep in school	Learn about jobs	Subjects for teacher training	Other

2. What do you think was the basic purpose of our summer program?

Positive	Negative

3. Why do you think you were chosen instead of another industrial education student at Champaign High?

Positive	Negative

4. What would you have done differently if you could turn back the clock and relive our summer program?

Positive	Negative

5. What are your feelings about the TV cameras?

Hand tool	Power machine

6. What tool or machine did you most enjoy using this summer?

Hand tool	Power machine

7. What tool or machine did you least enjoy using this summer?

Positive	Negative

8. Describe each of the other O. E.'s in your team.

O. E. ______________________________
Last First

Positive	Negative

O. E. ______________________________
Last First

Positive	Negative

O. E. ______________________________
Last First

Positive	Negative

O. E. ______________________________
Last First

Positive	Negative

O. E. ______________________________
Last First

Positive	Negative

9. Describe the other Lab. Aides.

Positive	Negative

LABORATORY AIDE EXIT INTERVIEW FORM (continued)

	10. Describe your two team teachers.
Positive Negative	Teacher ______________________ Last First
Positive Negative	Teacher ______________________ Last First
Positive Negative	11. Describe Dr. Tinkham and Dr. Campbell. Dr. Tinkham
Positive Negative	Dr. Campbell
Positive Negative	12. Would you recommend the lab. aide job to your friends? Why?
Positive Negative	13. Would you participate in a program like this next summer if you were invited? Give the **main** reason for your answer.
Money Learning Other	
Positive Negative	14. Would you if there was no pay involved?
People Materials	15. What do you feel is the greatest **weakness** of our summer program?
People Materials	16. What do you feel-is the greatest **strength** of our summer program?
None Few Many	17. a) What did you learn in our program this summer which might help you get a job in the future?
First Middle Last	b) When did this happen? (weeks)
Industrial or shop Other None	18. As a result of our summer project, have you changed any of your ideas regarding the **type of** work you want to do for the rest of your life? Explain.
Answer	19. The last item is to describe in **one word** our total summer program.
Immediate Delayed	

EXIT INTERVIEWS—LABORATORY AIDES

It will be recalled that the five laboratory aides were chosen by their industrial education teachers at Champaign High School as the *top five students* who were available to work afternoons for seven weeks during the summer. As even a distribution as possible was maintained between white and Negro students.

One laboratory aide was assigned to each of the five teams. The laboratory aide worked under the direction of the two teachers in training in his team. His duties included such activities as the following: preparing demonstration materials, cutting stock to rough size for specific projects, adjusting and maintaining equipment, securing audio-visual materials and returning them after use, assisting in distributing food during the lunch hour and taking the meal orders for the next day within his team, and, at the discretion of his teachers in training, giving supplementary instruction on an individual basis within his team.

The exit interviews for the laboratory aides were conducted during the final week of the project which had been set aside for evaluation, utilized similar facilities, and followed a similar interview format to the O. E. exit interviews. This Laboratory Aide Exit Interview form is shown on page 132.

The results of the interviews were carefully analyzed by listening to the taped interview and studying the interviewers' checks in the Laboratory Aide Exit Interview form. These revealed that the laboratory aides expressed positive comments toward the program as a whole and toward the specific activities in which they were engaged.

In attempting to evaluate the O. E. student, the aides revealed an awareness of some of the attitudes, behavior, and mannerisms generally identified with dropout-prone youth and evident in a large degree among the O. E. students. They felt, nevertheless, that the interest and the cooperation of the majority of the O. E. students were quite satisfying.

The aides were in agreement that, in the main, the cooperation and dedication exhibited by them (the aides) were highly satisfactory and that many good personality qualities and strengths were brought to the fore.

All of the laboratory aides felt that their experiences in the summer program were very beneficial from the standpoint of *both money and learning*, and they would not hesitate to recommend the program to their friends having similar interests. The majority of the aides felt, however, that they would not be inclined to participate in a similar project if the money incentive were removed.

While no definite weaknesses were identified by the aides, mention was made of the slight adjustment difficulties encountered during the initial development of the activities.

Their answers to the final item describing in one word the overall summer program in which they participated included the terms "good" (twice), "helpful," "successful," and "good idea."

The results of the interviews reveal that the aides, as a whole, were highly impressed with the responsibilities placed upon them and indicated that their desires to pursue careers in industry and/or the teaching of industrial subjects had been strengthened by their summer experiences in the experimental project.

EXIT INTERVIEWS—COLLEGE STUDENTS

At the very end of the last week of the eight-week summer session—the week set aside for evaluation of the summer project—the project director conducted ten team exit interviews of the college students who were members of the experimental program. The two teachers in each of the five teams of the teachers-in-training class (Votec 384), plus the three to four college students in each of the five teams of the graduate curriculum class (Votec 459D) were the interviewees. In order to make this a true *exit* interview, it was felt that the college student should have completed his final exams and the exit interviews with the O. E. students and laboratory aides before undergoing his *own* interview.

Each of the exit interviews for the college students was put on a tape recorder. The interviews were scheduled at the convenience of the teams in blocks of two-hour time sequences. The project director initially estimated that one and one-half hours would probably be sufficient to complete these exit interviews, but he scheduled the two full hours in case any of the interviews ran overtime.

Two exit interviews were scheduled for late Thursday afternoon and evening and eight interviews were scheduled for Friday, the last day of summer school. The college students were very willing to react to the items in the exit interview; thus each team used the full two hours allotted. This was very gratifying to the interviewer even though he interviewed continuously from 7:00 a.m. to 11:00 p.m. on Friday. One team utilized the full two hours allotted and still had a few items they had not reacted to. It was suggested that they might take another tape recorder and complete the remainder by themselves in the next room if they were willing. They did so and spent another half hour completing this interview.

To conserve the reader's time, the two forms used as guidelines for the 384 and 459D class exit interviews have been combined. The forms were necessarily similar, therefore the Guideline Form for Votec 384 Exit Interviews has been reproduced with the differences from the Votec 459D form superimposed.

COLLEGE STUDENTS' EXIT INTERVIEW FORM

Combined Guideline Form for Votec 384 and Votec 459D Students
(Both groups were given the same interview questions with the exception of those parts appearing in bold face type.)

For Team ____________________ August ____________ ,1966.

Will the team leader and then the second member of the team please give his full name and home address where mail will reach him during the 1966-67 school year.

Leader ______________________________
Address ______________________________
Student ______________________________
Address ______________________________

Please be frank and truthful in your answers as no part of your course evaluation will be based on these interviews.

1. How did you first hear about this summer research project?
2. Why did you sign up for this course?
3. Knowing what you now do about the content of the course, would you still sign up for it if this were the beginning of this summer?
4. What was the purpose of our total summer research project?
5. What objectives do you think were of greatest significance in our summer research project?
6. What objectives did we not follow through this summer?
7. What are the competencies needed by teachers who work with dropout-prone students in a vocational shop setting?
8. How successful do you feel the specific laboratory aide was in your team?
9. How successful were the lab aides in general this summer?
10. What do you believe are the competencies needed by a laboratory aide?
11. How could the lab aide idea be strengthened if another project was designed similar to this summer's efforts?
12. Do you think it is actually necessary to have O. E. students in the shop in order to prepare teachers who are competent to work with this type student? Explain.
13. What was your initial reaction when you learned of the required home visitations?
14. What was your reaction after the required home visitation?
15. How could this aspect of the program be strengthened?
16. How valuable did you find the file folder on each student in Room 42?
17. How valuable did you find the microfiche materials available in Room 42? (384 only.)

17A. What shop dropout-prone curriculum material is available and how good is it? (459D only.)

18. Describe the coordination between Votec 384 and 459D. How could it have been improved?
19. What were your feelings about the TV? How could it have been more effective?
20. What curriculum was most effective with your team?
21. What curriculum material was least effective with your team?
22. What is your opinion of the team structure used this summer?
23. Of what value might a machine such as the Language Master be with dropout-prone youth in a shop situation?
24. What do you see as the greatest problem in working with the O. E. type student?
25. What do you see as the greatest value in working with the O. E. student?
26. What type of teaching technique worked best for you this summer? **(459D: Omit phrase "for you")**
27. What type of teaching technique was the least effective for you this summer? **(459D: Omit phrase "for you")**
28. What type of shop facilities do you think would be best for the dropout prone?

29. What shop equipment do you think is too hazardous for dropout-prone students of fifteen and sixteen years of age?
30. What type of discipline seems to work best?
31. What type of discipline seems to be least effective?
32. In one or two words describe your image of or feeling toward the dropout-prone student just before you began the summer project.
33. In one or two words describe your image of or feeling toward the dropout-prone student today.
34. Would you recommend this program to your friends?
35. Would you participate in a program like this next summer if you were invited? Give the main reason for your answer.
36. Would you if there were pay involved?
37. What do you feel is the greatest weakness of our summer program?
38. What do you feel is the greatest strength of our summer program?
39. As a result of our summer project, have you changed any of your ideas regarding the type of work you want to do for the rest of your life? Explain.
40. Describe each of the O. E. students in your team. (384 only)
40A. List the units of work your O. E. team undertook this summer. (459D only)
41. The last item is to describe in ONE WORD our total summer program.

Immediately at the conclusion of all the college student exit interviews, the interviewer taped for each guideline item his personal reactions based on the total interview results. Each team interview was transcribed on cards. These hundreds of cards were laid out on a very large surface and compared item by item in order to select illustrations and summarize answers, samples of which follow.

2. *Why did you sign up for this course?*
"We have a real problem in our school, working in the freshman branch of high school. Our shop program is poorly oriented to the slower student although this is what our shop enrollment is mostly composed of. A great interest in the high schools of Chicago is for the academic program to push them on into college, and the student who doesn't fit into the academic program is usually a misfit. We have a freshman branch composed of all freshman students, and those that weren't academically oriented are thrown into a shop with an inexperienced shop teacher, and as a result problems and conflicts and all sorts of difficulties arise. There is a fear that the shop program will be disbanded because of this trouble. When I saw the brochure and the information from Dr. Campbell and he mentioned the possibilities of working down here in this shop and the curriculum part of the program, I discussed it with our principal and he thought it would be a good idea to come on down to see if we could get some ideas, so I'm bringing back all the curriculum material we've developed here and hope we can continue our shop, because if we don't and the shop folds up, the nonacademically oriented student will be thrown into an academic program, be frustrated, and thus still more dropouts."

"Well, I've known for quite some time the need for people working with this type of boys. I first got acquainted with these working with Scouting and then I've got a nephew who was on the road to the penitentiary until he got into an industrial education course in high school and that was very instrumental in putting him back on the road to being a good citizen. That nephew of mine, I believe he was going to quit school the day he was sixteen, when it was legal to quit—and run off and now that he has gotten into vocational education he is intending to finish high school and go on to a trade school. I know that these types of courses are very instrumental in his being a better boy."

"I was interested in the program because of the new position that I will have as a supervisor of vocational education in Wisconsin. Primarily my work will deal with curriculum development of all types, and I thought that this might be one of the things I would be involved with, and I wanted some more background in curriculum development. My title will be Supervisor of Teacher Education and Curriculum Development."

"I mainly took the course because in reading the literature it looked like a course that I could get something out of, that I could use when I go back to school this fall. That's what I was looking for—a course that is really practical."

3. *Knowing what you now do about the content of the course, would you still sign up for it if this were the beginning of this summer?*

Without exception, every college student replied positively to this question.

"Yes, I would take it again, because there's the experience of really working with these boys—there's no other way you can get it."

7. *What are the competencies needed by teachers who work with dropout-prone students in a vocational shop setting?*

This is one of the key items in the exit interviews. *Patience*, *a sense of empathy*, and *maturity* were the three most common competencies mentioned. Several excerpts from the college students' answers are reproduced because it is felt that these types of answers coming from the students themselves and in their own words are very significant toward evaluating the behavioral changes fostered by the summer research project.

"I think the main one that you have to have is the stick-to-itiveness and not giving up right away when you know you are failing with one student. You need the drive to stick with them and help them out, even though they don't want you. I imagine a lot of teachers would just forget about it and send them home. But I thought that as long as we've got them down here doing something, it's better than having them out on the street or in a bad home."

"You have to be able to empathize with them—take into concern their problems, their lack of abilities, and you personally have to have a well-developed self concept. You can't be afraid of what others think of you in your approach with the student, because you can't help but experiment and develop different methods. Your peers, fellow teachers, may complain about the type of students you're working with and that they don't see any real accomplishments."

"I think he has to understand the type of individual he's working with—be able to interpret the material within the student's cumulative folder, his academic grades, his limited background, the socioeconomic background of his family, and realize these are the tools the student has to work with, these are the competencies the student has, and work with them."

"I don't think that I could handle a full class of these individuals right now, but I think I have a better outlook on the few I do have and I can help them more—I'm going to have to if they're going into this vocational program or going to stay in school. I also think that a teacher in this field must have a very, very good background in counseling—I think this is one of the major things, because it's more attitudes than anything else."

"I think along with the patience you've got to be careful that you don't overhelp them. You've got to keep him going and get him to work, but you don't want to offer too much help. Many times you wait for him while he's trying to get something done and you have a tendency to go in and help him or give him a helping hand and do it for him. You wind up doing it for him and you have to be able to get them going on their own, even if they make a mistake, it can be a learning situation."

"You must be able to see these kids in *their* situations and you tend not to do this. You use your own set of values."

"You've got to have a desire to understand them."

"The quickest answer I could give to that—what does Dick Henek have? What does Foster Fuller have? These two are the ones that the kids most often referred to. They're warm, interested, and gentle people. I think this is important."

"I think both of these fellows have the talent of going the second mile with the student. Such as with Dick, he was willing to take the boys fishing on a weekend, getting close to them, learning more about not only their school experiences, but their home experiences and such. Showing that they were thoroughly interested. I think this is something that is important. I think one of the things that a person should have working with these boys is a barrel full of patience."

"I think Cliff will remember, when we interviewed Subject O's mother. She spoke about how interested he had been and how proud of what he had accomplished, because the instructor had not only been patient with him, but had understood what he was trying to do. I think this is a classic test of a good teacher, that he can be tremendously masculine, and still be a very gentle person. I think Dick has these qualities to the 'nth' degree."

"I think one quality that Foster had that looms up in my mind is consistency. He was always the same old Foster day in and day out and the kids knew what to expect from him. He didn't make any bones about telling them what they could expect from him and they just always knew where they stood with him. I think that's one of the main reasons that he had success. This I think is tremendously important to these youngsters. Their home life and their whole makeup of daily activities—there's very little consistency, really."

"He needs to have a lot of patience and be willing to stand a lot of heartbreaks—he has to be the type of person that's willing to give a lot of himself."

"You've got to establish rapport, first of all. You've got to see the kid's problem as he sees it. You've got to sort of sit in his seat for once. I think once you find out how he views the situation, how he sees himself, I think then you can identify and find that thing that's causing the type of behavior that you don't like, or that isn't acceptable. I think you must be able to identify, I think that's important. You've got to let the kid know that you're on his team."

"I don't think you're going to get through to him until he feels that comfortable feeling that you are on his side . . . the teacher must have a feeling of wanting to help. I couldn't describe this in one word and call it a competency. It's a concern."

"I think the most important thing is that the teachers have a sincere interest in the student as an individual. This type of student can see through a person more clearly and faster than the average student, and I feel that if you're not sincerely interested in them, if you're in the program because you're out to make a name for yourself, or it pays more, you've got two strikes on you before you begin."

Items 8, 9, and 10 dealt with the laboratory aides. It is interesting that three out of the five teams felt theirs was the best lab. aide. The competency stressed was maturity. Many interviewees mentioned the teacher recruitment potential of using high school students.

12. *Do you think it is actually necessary to have O. E. students in the shop in order to prepare teachers who are competent to work with this type student? Explain.*

Agreement was unanimous. You must have them to do the job. In fact, those who were in the 459D class felt compelled to come down and observe these students in the lab because they felt they could not fully understand this type of student from only a classroom-lecture situation.

13. *What was your* initial *reaction when you learned of the required home visitations?*

Without exception, words such as "afraid," "horrified," and other completely negative statements were expressed by all those who had not conducted home interviews. Only two had positive statements. These were from a man who has conducted home interviews in his regular program, and a guidance counselor. All the others were extremely negative. They felt they were prying, and were actually terrified at the idea.

14. *What was your reaction* after *the required home visitation?*

Without exception, they thought it was extremely beneficial and wished they could have done a lot more of it. Typical answers were "wonderful experience" and "learned a lot." Several even wish to incorporate this into their programs when they go back to school this fall, and plan to utilize the parental interview form we developed. The project director was amazed that an eight-week project would uncover a variable with such dichotomous results. Initially reactions were completely negative, and after the home visits they were completely positive. In fact, these reactions were expressed even by the college professors involved. One teacher in training who conducted his home interviews teamed with his instructor said, "All the way out there Dr. Tinkham kept calling me a skeptic and after we had finished our two interviews, he sorta admitted he had been skeptical about going."

16. *How valuable did you find the file folder on each student in Room 42?*

It was very gratifying to observe how much use was made of these file folders. When the college students answered Item 40 during their exit interviews (describe each of the O. E. students in your team) they had reams of information at their fingertips. The project director sincerely believes that these teachers in training knew far more about the O. E. students in their team after six weeks contact than the typical (not O. E.) teacher does after one year's contact. A sample file has been reproduced in its entirety earlier in this same section of the final report.

17 (a). *What shop dropout-prone curriculum material is available and how good is it?*

Most of them didn't know of any material. They had looked for it and had found very few specific curriculum materials that had been produced for the dropout-prone in Votec.

In reference to items 20 and 21 concerning the most effective and least effective curriculum materials, time when developed was the significant variable. The most effective curriculum material was the last material that was developed. Almost without exception, the least effective was the first material produced—the lecture material.

22. *What is your opinion of the team structure used this summer?*

All the college students were very much in favor of the team teaching idea. They felt this gave one teacher a chance to get something prepared while the other teacher was working with the group. They liked the combination of two teachers, one lab. aide, and the five students. They felt this was an ideal arrangement. The team approach gave them a chance to work with one individual, later with another individual within their team, and still have some continuity even when a few students were moved away from their team temporarily into another team to do a specific task. These students automatically and without invitation came to their original team teachers to get instructions.

23. *Of what value might a machine such as the Language Master be with dropout-prone youth in a shop situation?*

Those who had worked with it and those who had actually watched it in operation were extremely favorable towards it. Those who had not seen it working because they were busy elsewhere and had not done anything with it were quite skeptical.

Items 24 and 25 dealt with what the college students felt was the greatest problem and the greatest value in working with the O. E. student. The greatest problem was getting their attention and keeping it until they had completed a task. The two most typical responses concerning the greatest value expressed the ideas that (1) succeeding with the O. E. student is especially meaningful because it was so long awaited, and (2) making this person a worthy contributor to society is highly desirable.

The answers to Items 26 and 27 (concerning the teaching technique which worked best for them and which technique was least effective) reflected a general feeling that the best teaching techniques utilized a program which involved the student in a productive activity. The least effective technique was believed to be the strict lecture method in a group setting.

29. *What shop equipment do you think is too hazardous for dropout-prone students of fifteen and sixteen years of age?*

Interestingly enough, the majority believed no equipment was too hazardous for this age group, if the students had been given instructions on how to use the machine and a supervisory person was close by.

Ed Lynch made a very excellent observation. He felt the most dangerous tools were the exacto-knives and gouges which he had observed some students waving around. The O. E. students had little respect for the hand tools, thus they were more dangerous than the large machines, of which the students were normally somewhat cautious.

30. *What type of discipline seems to work best?*

Getting the boy away from his peers seemed to be the key.

31. *What type of discipline seems to be least effective?*

This was ridicule before the group. However, the students observed that even this worked very well in rare cases, such as when Dr. Tinkham told Subject D that his opinion of him had dropped tremendously after the student had mishandled some delicate equipment brought down to show the group. Dr. Tinkham did not have anything broken or lose any of the delicate carved ivory and other costly items which he brought down during the warm-up sessions. These were left unattended during the remainder of the afternoon so that the individual O. E. students could see and handle them. This is certainly significant.

32. *In one or two words describe your image of or feeling toward the dropout-prone student just before you began the summer project.*

33. *In one or two words describe your image of or feeling toward the dropout-prone student today.*

Basically an *impersonal* word or words were used to describe the O. E. before the summer project began. Almost without exception, a feeling of *personal relationship* was exhibited in the description of the O. E. student given at the end of the course. Following are some illustrations of answers by the *same* college student to items 32 and 33.

Before Project	*After Project Completed*
didn't understand them	interesting
lack of knowledge	encouraging
unemployable	potentially valuable
different type of student	concerned
generally unconcerned	sympathetic
of difficult environmental background	in need of help
has special problems	needs help
teenage gangster	average—a few problems
dumb idiots	wayward students
completely different	unique students

35. *Would you participate in a program like this next summer if you were invited? Give the* main *reason for your answer.*

In response to Item 35, it was surprising to the director that almost all of the college students answered "yes." A few said normally they would but that they had already made commitments for next summer.

37. *What do you feel is the greatest* weakness *in our summer program?*

The two items most frequently mentioned were coordination at the beginning between the two classes and the lack of time. They wished they could work with these students longer than six weeks.

38. *What do you feel is the greatest* strength *in our summer program?*

The most frequent responses were (1) actually having the O. E. students here and having a chance to work with them, and (2) having university people interested in this problem and actually doing something about it.

41. *The last item is to describe in* one word *our total summer program.*

All of the descriptive words were positive. The most common word which appeared in four exit interviews was "enlightening." Other answers were:

Rewarding
Interesting
A learning experience
Good experience, really
Socially gratifying
Very good experience
Challenging
Educational and wonderful
The first step
Wonderful—all good
Helpful
Worthy or worthwhile
Educational
Tremendous program
Wonderful—best learning experience I've had since I've been in college.

As was mentioned earlier, the college students' exit interviews took a full two hours. All of the men stayed throughout without complaining and were unusually attentive in considering and responding to the items. The interviews flowed easily because the students often moved from their discussion of the current item to a topic which, unknown to them, was coming up shortly on the interview form.

SUMMARY BY CLASS INSTRUCTOR

Dr. Robert A. Tinkham, Associate Professor of Vocational and Technical Education, University of Illinois, and exemplary professor for the teacher-in-training laboratory class, was asked to write a short summary of his reflections on the summer experimental program.

> Looking back on the 1966 summer program which tied in our usual offering, Votec 384, The General Shop Program, with the boys in the Occupational Exploration program, my overall reaction is it was probably the most satisfying teaching that I have ever done. I say this because I feel that there was abundant evidence to show that my ten students in Votec 384 were markedly changed in terms of their understanding of, and their attitudes toward, problems involving dropout-prone youth. Obviously, there are changes for the good and some less desirable changes; however, in the case of these changes, I would say that they were of the first type. From all indications I have, these students, both undergraduate and graduate, felt that it was a tremendous experience that, at times, took much out of them but gave them a great deal in return.
>
> One bit of evidence of their high level of interest is seen in the fact that they were scheduled for twelve hours per week in the course, yet they decided to spend a minimum of fifteen hours per week with the boys and also added what was typically one hour per day following the class, to plan and to evaluate their progress.
>
> As to the reason or reasons for what I would call the great success of this program,

I am not certain. Perhaps the current national concern for problems of cultural deprivation and the attention we are now giving to the question of how we can reach these youngsters had their effect on the thinking of these teachers and prospective teachers. It is possible that here, for the first time, the student had a small enough teacher-pupil ratio to allow him to really get to know some of these boys; and this brought greater insight and understanding. I definitely feel that the visits by my students to the pupil's home for the most part added a new and very worthwhile experience. (The previous statement is qualified because not always was it possible to gain access to the home.) It is probably safe to say in summary that the students were ready and took advantage of the summer's unique opportunity to increase their potential as teachers.

Summary and Conclusions

The two main purposes of this study were to prepare vocational-technical teachers to work with dropout-prone youths in laboratories *within* the school and to discover how successful a special votec program would be in assisting those students with special needs. (See page viii for a complete list of the project objectives.)

Twenty-four dropout-prone Occupational Exploration students from the Champaign Public Schools were chosen by a stratified (by race) random sample to participate in a summer experimental program. A *team teaching* approach was utilized with five dropout-prone students, two teachers in training, and a laboratory aide working as a typical team in the shop class. These five teams were coordinated via closed circuit television with five corresponding teams in a graduate class which developed curriculum materials tailor-made for their specific shop team.

The schedule for the actual conduct of the summer experimental program was as follows. Orientation programs were held during the first week of the experimental program. During the following six weeks the students worked on a building maintenance program for the Champaign school system from 8:00 a.m. to 12:00 noon. Transportation to the University and lunches were provided between 12:00 noon and 1:00 p.m. From 1:00 to 4:00 p.m. they participated in the laboratory program (Votec 384). The eighth week was devoted to an evaluation of the program.

A series of evaluatory instruments was developed by the project director and/or his research team. A forty-four item Likert-type attitude scale was developed which proved to have high validity and reliability. This Student Attitude Toward School Shop (SASS) scale was administered to the dropout-prone students as a pre-and post-test. A motivational analysis instrument; a student evaluation form (group rank) used to determine ranked successfulness of each O. E. student within his team; a form for measuring opportunities for meeting vocational needs; a series of exit interview forms designed for the O. E.'s, the laboratory aides, and the college students in the shop class and the graduate curriculum class; a parental interview form; and a form to develop a typical daily schedule for each O. E. student were other evaluation instruments designed specifically for this research study.

Two other instruments were administered during the study: the Kuder Preference Record Occupation Form D and the Bailes Interaction Scale.

In addition to the classwork, each of the teachers in training was required to make a visit to each student's home to administer the parental interview form, and to keep a diary of the daily activities relating to classwork.

In meeting our first project objective dealing with exploring the dimensions of the dropout-prone youth problem in relation to occupational development leading toward gainful employment, it was found that the problem is as complex and complicated as the project director originally surmised. One illustration indicating the complexity of a single dimension is in the area of *inconsistencies*. Data concerning the O. E. students were compared for consistencies and inconsistencies when gathered from four sources: the O. E. student himself, his parents, the school psychologist, and the teacher in training. Only five of the 24 socially maladjusted students indicated any family trouble. A third of the O. E.'s answers were found to *disagree* with their parents' answers. Thus it was concluded that a relatively high percentage of inconsistencies was found when it is recalled that we were dealing with the same student but from different viewpoints.

The second project objective asked the question whether this six-week summer experimental program of unique votec laboratory experiences would meet the needs of these youths in relation to occupational development or preparation for occupational programs. It was concluded that a positive answer was warranted. In only two cases did this not appear to be true. One was the only dropout of the summer experimental program and the other was a student who scored lowest on both the pre- and post-test SASS scores. He desired to be a jazz singer.

Use of the form developed for measuring opportunities for meeting vocational needs disclosed that the summer program provided opportunities for meeting each of the identified vocational needs. An analysis of the

O. E. exit interviews indicated that 74 percent felt that the basic purpose of the program was job orientation. A one-word summation of the entire program by the O. E. students indicated a very favorable response toward the summer project as a whole. A frequently used term was "fun."

The third objective of the research project was preparing personnel to work with students with special needs. The major competencies needed by teachers who work with dropout-prone students in a vocational shop setting were identified as *patience*, a *sense of empathy*, and *maturity*. To recruit potential teachers to work with this type of student, actual dropout-prone students should be available. Without exception, the college students felt that it is necessary to have actual O. E. students in the shop in order to prepare teachers. Also, without exception, every college student replied positively to the question, "Knowing what you now do about the content of the course, would you still sign up for it *if this were the beginning of the summer?*"

The competency most often stressed as necessary for a laboratory aide was *maturity*. *All* the laboratory aides felt their experiences in the summer program were very beneficial from the standpoint of *both money and learning*.

The fourth and final objective of the experimental project was to disseminate the findings. Although dissemination is usually not regarded as a major project objective, the director felt so strongly about the usual weakness in effectively disseminating research findings in education that it was specifically designed into this project as one of the four important goals.

In addition to this final report, a set of three kinescopes completes the dissemination package. In order to further encourage the reader to *see* and *hear* the composite summary of the project in action, the script used by Dean Rupert N. Evans in introducing one of these three 16-millimeter movies is presented.

> Do these boys look like disinterested dropout-prone students? You have just seen a few vignettes of severely socially maladjusted pupils who participated in a research project at our College of Education at the University of Illinois during the summer of 1966. Yes, I said during the *summer* and at our *college*. Thus you will see, during the remainder of this kinescope, scenes of these dropout-prone students receiving more of what they don't like—school—and during their summer vacation, no less! Another interesting aspect of the project was that these boys who might very likely drop out of *high school* were working in a *college* environment. The boys made a wide range of projects. However, these finished projects were not the major goal but were simply a motivational device used to arouse the dropout-prone student's desire to come to school and to learn.
>
> They were participating in a research project entitled Experimental Program to Prepare Vocational–Technical Teachers for Laboratory Classes Designed for Dropout-Prone Youth. To our knowledge this is the first program in the country to prepare industrial education teachers to work specifically with dropout-prone students.
>
> Because of the unique social and emotional problems involved in teaching the

dropout-prone student, the teachers in training actually worked with these students as you will see in the film and did not just *talk* about the teaching process.

Dr. Robert A. Campbell, project director, felt that the dropout-prones' interest in shop work might motivate them to develop and use many of the basic learning skills they were rejecting in the conventional classroom.

You will see students looking up information in catalogs and encyclopedias and reading instruction sheets—activities not usually associated with the dropout-prone. The special instruction sheets and other curriculum materials for the dropout-prone students were prepared by a graduate class which observed the dropout-prone via closed-circuit TV. Because the general shop and curriculum classes met at different times, video tape was used. The kinescope you will be viewing is one of three kinescopes made from sections of these TV tapes.

This particular film is devoted to summarizing the total project, and to encouraging other schools and colleges to work in this field. The second kinescope deals specifically with preparing the teachers in training to work with the dropout-prone. The third and last kinescope is devoted to the actual shop activities of the dropout-prone students.

The reader is referred to the inside back cover of this report for more information regarding requests for these films.

Additional conclusions drawn from the research project follow.

Each of the evaluative instruments specifically developed for this research project provided meaningful and useful data. The Student Attitude Toward School Shop (SASS) scale was extremely reliable.

The college students' attitudes toward home visitations changed from completely negative to completely positive. It was amazing to the project director that an eight-week project would uncover a variable with results which changed so radically. This variable was the required home visitations. Words such as "afraid," "horrified," and other completely negative statements were expressed by all of those who had not conducted home interviews. After the home visitations had been conducted, everyone thought they had been very beneficial and wished that they could have made more of them.

In reference to curriculum material developed for the summer project, time when developed was the significant variable. The most effective curriculum material was the last material which was developed. Almost without exception, the least effective was the first material produced—the lecture material.

The college students as well as the dropout-prone students were all in favor of the team-teaching idea utilized in the project.

In regard to the value of a machine such as the Language Master in working with dropout-prone youth in a shop situation, those who had worked with it and those who had actually watched it in operation were extremely favorable toward it. Those college students who had no contact with the machine were quite skeptical of its potential value in this type of situation.

Generally speaking, there seemed to be few, if any, differences by race on the variables investigated in this study. Of the many variables compared by race, the only one which showed any wide difference was the motivational value of the free taxi ride. Almost twice the percentage of responses in this category were chosen by the Negro students. However, the actual numbers were small.

During the following regular school year the dropout rate of the O. E. students in the control group was well over double the dropout rate of O. E. students who participated in the experimental summer research program.

The difference between pre- and post-test SASS scores earned by the experimental students closely approached statistical significance but did not reach the 5 percent level.

IQ was the one variable which correlated more often with other variables used in the study. IQ correlated strongly enough with these three variables to be statistically significant at the 1 percent level—industrial arts grades, school behavior, and SASS pretest scores.

Dropout-prone students will attend school during their summer vacation with about the same attendance record as during the regular required school year *if* they are paid and engage in a special votec program.

Seventy percent of the O. E. students in our experimental program were born in the Champaign-Urbana area and 80 percent came from large families with a below-average socioeconomic level.

Teaching methods should be developed so that the dropout-prone student takes an active part.

An increase in negative responses by a teacher lowers the observable desirable qualities of a student in terms of group behavior. A decrease in negative responses is reflected in the students' behavior and tends to promote group solidarity and leadership.

Mondays, after the students had been in their home environment during the weekend, were the worst days in regard to O. E. discipline.

Good team days, as reflected by the daily diaries, decreased as the summer progressed. The main cause of this seemed to be fatigue.

The daily diaries kept by all teachers in training, the college instructors, and the laboratory aides were extremely valuable. This method provides an excellent source of information. Also many constructive comments can be drawn from the diaries in preparing a follow-up of this experimental program.

Important tests and research instruments must be read to the dropout-prone on a one-to-one administrative basis to obtain reliable results.

The recruitment brochure was adequately designed to catch the interest of its intended audience but in future projects should be individually addressed and mailed early in the school year.

No physical injuries were sustained by the severely socially maladjusted dropout-prone students at any time during their activities *in the shop*. Also, *nothing was stolen or purposely broken*. Even the costly and delicate items Dr. Tinkham used in his warm-up sessions, and which were intentionally left unattended during the laboratory period, were not harmed in any way.

It was concluded that this was the first program in the nation to specifically prepare industrial education teachers to work with the dropout-prone student.

The last item on the exit interviews asked the college student to describe in *one word* our total summer program. *All* of the descriptive words were positive. The most commonly used was "enlightening." This would also be the one word the project director would choose to describe his reaction to the total research project.

IMPLICATIONS

In order to obtain more variables which might prove to be statistically significant, a larger control group is needed. Along these same lines, if more time than six weeks were available for the experimental program, there would seem to be more opportunity for the dropout-prone students to change. A program during the regular school year may be in order.

A longitudinal follow-up is needed to more fully and accurately evaluate the efforts of the summer program upon the O. E. student.

The dropout-prone youth does not seem to have a realistic self concept. Can shop activities provide the opportunity for the development of a valid self concept by this type of student?

The other half of the dropout-prone youth problem should be investigated. Do girls react as the boys did during an experimental summer project in vocational-technical education?

Will a cooperative project utilizing each of the many divisions in vocational-technical education (home economics, agriculture, business, etc.) best meet the diverse needs of dropout-prone youth?

Perhaps one of the best sources for recruiting personnel to work with dropout-prone youth is a required course similar to the experimental Votec 384 for all students in vocational-technical teacher education programs. When future teachers are forced to work with the dropout-prone student in a face-to-face small-team situation, they learn the problems, challenges, and rewards of working with this type of student.

A surprisingly large number of people inside and outside the summer experimental research project mentioned the value of recognizing, at the university level, the problems of the dropout-prone segment of the public school population. This seems to imply that the University of Illinois and others should continue to work in the area.

Combined with the foregoing report to make a total dissemination package is a three-part kinescope titled **Experimental Program to Prepare Vocational Technical Teachers for Laboratory Classes Designed for Dropout-Prone Youth:**

Part I—Project Summary
Part II—Preparing Teachers
Part III—Student Activities

Arrangements for obtaining these 16-millimeter films may be made with the project director:
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